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No. XVIII.

A DISSERTATION

On Chronic Debility of the Stomach.

BY BENJAMIN WOLSEY DWIGHT.

THE following observations were read before the Academy, as far as the close of the remarks on Acidity of the Stomach, at their meeting, June 26, 1810; and the remainder at their next meeting, on the 23d of the succeeding month.

The author, having been engaged but a little period, in medical pursuits, is not extensively acquainted with what may have been written by others, on the same subject. He has nowhere seen it discussed in a manner, which appeared to him satisfactory. As he has suffered severely from the disease, during the last eleven years of his life, he was induced for his own satisfaction, and from a wish to benefit others, to commit to writing, the result of his experience and observation. As many of those, who may read this work, may be presumed to be to a great extent unacquainted with subjects of this nature, it was proper, in his opinion, to make several explanations, which would have been unnecessary, had they been addressed to a Medical Society. Some things also, have been cursorily noticed, or wholly omitted, which would have appeared, had they been intended for a work professedly medical. He has been led to be more minute in many parts of the discussion, also, from the fact, that the disease is becoming yearly more frequent. Among our ancestors it was but little known. They all, except a very small number in a few towns,

were accustomed to much bodily exertion. There were few or no pleasure carriages in most parts of the country. Both men and women almost universally rode on horseback. Professional men as universally had farms. The mechanics, whose employments were of a sedentary nature, busied themselves about agriculture, also, to a considerable extent. Now, the disease is spreading extensively. Multitudes of clergymen, of mechanics, of students at colleges, and of women, are losing their health from this cause. Clergymen have no farms; Mechanics, from the increasing division of labor, are in the same predicament. A large proportion of both these classes of persons, and many others, have in a great measure ceased riding on horseback. At the outset it is less fatiguing to ride in a carriage. When exercise must be taken, the inquiry seems to be, What kind will excite the least weariness? not, What will most promote health? It is laughable as well as melancholy, to hear the sons of farmers, as soon almost as they have entered on a studious course, and mechanics, by nature sturdy, complaining piteously of the hardships of any employment which requires certain bodily exertions, to which they are unaccustomed. Females, to a great extent, are becoming dyspeptic from dress, from diet, and from want of exercise. The effects will be more evident and distressing in the next and succeeding generations.

THE stomachs of all animals, though they may differ in many respects in the different species, agree in this, that they are concerned to an important extent, in the process of digestion. Some animals live wholly on animal food; others wholly on vegetable; while man is fitted to live on either kind, but more happily on a due mixture of both. The digestive powers of different men, are often exceedingly different, in various respects, and even of the same individual, at different periods of his life, so that what is healthful at one period, is noxious at another. Thus, a person debilitated by a fever cannot bear the food, which, in health, is wholly mild and grateful. On a sound state of the stomach, no small part of our comfort, and energy of body and mind, depend.—If the digestion is vigorous, the animal motions are usually pleasant, the secretions and excretions regular, the spirits cheerful, the body attains its utmost strength, and

the mental powers are capable of being exerted to the highest advantage. There are persons constitutionally dull, stupid and phlegmatic, who possess great vigour of body, and a rapid digestion. To these, the above observations are not strictly applicable. So important an influence has a sound digestion upon the whole state of the body and mind, that many Physiologists have very properly styled the stomach *the laboratory of the system*.

The immediate cause or instrument of digestion is the same in all those animals with whose structure and economy we are thoroughly acquainted, though the steps preparatory to this process are in many instances exceedingly different. Thus in the Gallinaceous Class of Birds the latter process is the result solely of maceration and muscular action; while in man and many other animals it is performed by the action of the teeth, aided by the operation of the saliva. But the digestive process so far as it takes place in the stomach, is accomplished chiefly by the gastric liquor. Some aid is, however, rendered by the muscular action, and heat of the stomach; and the process is completed in the duodenum, by means of the solvent and saponaceous powers of the pancreatic liquor, and bile.

The Gastric Liquor possesses some very singular and very important properties. Its solvent or corrosive power is totally unlike that of any other fluid, with which we are acquainted. It not only dissolves every species of food suited to the sustenance of man, but also the stone in the bladder, and some other substances of an equal or greater density; while it produces no corrosive effect upon several kinds of worms, which not only often live, but grow rapidly, in the stomachs of men, and many other animals. Neither does it produce any corrosive effect upon the stomach which secreted it, while the living principle remains; but, when the living principle has become extinct, especially if the person was previously in health, its corrosive effects are in some instances so powerful, as to eat through all the coats in a few hours. It possesses, also, powers eminently antiseptic, or opposed to putrefaction. Were it destitute of this property, the food taken into the stomachs of the sick and debilitated would, in many instances, become putrid, and destroy life. The same degree of heat, which is ever found in the stomach

in health, aided by the same quantity of air and moisture, out of the stomach, will occasion all the substances which we use for food, to putrefy in a few hours.

The time requisite for the due performance of the digestive process is very different in different animals.—Some substances, also, require a longer time than others to undergo this process; and individuals of our species differ not a little in the strength and activity of their digestive powers. Some animals can live with little or no apparent inconvenience, a considerable period, without fresh supplies of food. Bears are said to remain, in many instances, through a large part of the winter, in this situation; and I have been informed of a Wood Hatch, which continued more than two months in a torpid state, in the winter season; but on being brought into a warm room, became after a little period, active and sprightly, and continued perfectly healthy. Some species of insects and reptiles are known to live many months, and probably years, in a similar situation. To our species, it seems to be almost universally indispensable to the enjoyment of good health, to take food, once or oftener, every day. Digestion is, also, not a little influenced by various extrinsic or adventitious causes, such as the quality of the food; a redundant or deficient quantity; the good or ill preparation of it by cookery; and a due degree of mastication, or the want of it. On these subjects, though they furnish room for copious and interesting remarks, I cannot in this place dwell. Some observations concerning them, I shall make in the sequel. These and other causes may vary the time requisite for the due performance of the digestive process, in different persons, and in the same person, at different times; but, in most healthy people, it is completed at some period between three and six hours, from the reception of the food into the stomach.

To a person in high health, or possessing what is termed a *good stomach*, no directions are generally necessary. The appetite is here usually the directress. But to one, who has the misfortune to possess a stomach permanently debilitated, a train of evils commonly ensue, sufficiently distressing to make any information on the subject interesting.

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On this disease, viz. Permanent or Chronic Debility of the Stomach and Intestines, I propose to offer some observations. The Stomach I believe to be, originally, the seat of the disease; but from the intimate connection between it and the Intestines, by means of nerves, blood vessels, continuation of membrane, and similarity of structure and offices, they appear to be drawn in, in a greater or less degree, for their share of suffering. That the Oesophagus is affected in a similar manner, I have seen no proof.

Few diseases to which the human body is liable, and which do not immediately endanger life, are so distressing to the patient, or give rise to so great mistakes in his mind, and in the minds of ignorant physicians, as to their nature and probable consequences, as that which is proposed for consideration. To all such physicians there is, by the common consent of mankind, an admirable retreat provided, in which they may happily intrench themselves; a retreat, to which physicians of a superior character are often accused of resorting, viz. calling all those diseases, of the nature and causes of which they are ignorant, by the magical name *nervous*. Bestowing this name upon a disease, often removes many fears from the mind of the patient, and has no small effect in satisfying him, when little or nothing is done towards removing his sufferings: for it seems to be admitted, by common consent, that it is unreasonable to require of a physician that he should be able to cure, or even that he should understand any thing relative to the nature of, a nervous disease. Persons laboring under a Chronic Debility of the Stomach, though their sufferings may be very severe, and long continued, are generally believed by those around them, to possess crazed imaginations, and to be diseased in mind merely; and all, almost, are ready to join in the laugh at their whims, and to become impatient of their complaints.

The wise and the foolish, the learned and the ignorant, the old and the young, men and women, all unite in deciding peremptorily on a subject which they have never investigated. They experience no such troubles themselves, and therefore they conclude that they are not ex-

perienched by others. They hesitate not to determine, that the great bulk of dyspeptic persons are a poor, spiritless, moping race of beings, the subjects of unceasing mistakes, nearly bereft of their reason, and fitter for bedlam than for the company of persons so cheerful, knowing, and elevated above whims, and fears, and prejudices as themselves. It is easy to say, "We are the people, and wisdom shall die with us"—and equally easy when pressed in an argument to shout aloud, "I have gained the victory;" but it is a very difficult thing, when no proof is presented, to convince those who have thoroughly investigated any subject under discussion, of the truth of these assertions. An ignorant and prejudiced man will often rest immoveably satisfied that he needs no additional light to discover any truth. If a person is laid prostrate with the Yellow Fever, or the Pleurisy, it will be readily admitted that he is really sick; but he who labors under Chronic Debility of the Stomach, will meet with no compassion.

It is by no means my intention to say every thing that might be said, relative to the disease under consideration. For this purpose a volume would be necessary. I propose only to mention such things as have fallen within my own experience and observation, and such reflections as have grown out of them. The cases, which will be cited in proof of various opinions to be brought forward in the sequel, are partly such as occurred to me during about twenty months, while I was employed as a medical practitioner, viz. from July 1803 to March 1805. Some of them have fallen under my observation since that time. I mention this as an apology, for the want of particularity, which may be observed in the descriptions of some of them. The facts are all stated from recollection, none of them having been committed to writing at the time. I shall mention nothing, however, of which I have not a distinct remembrance.

THE SEAT of the disease has by some persons been confined to the *nerves* of the stomach, and by others to the *muscular fibres*. It appears to me that both are not a little affected, and also that the blood vessels, and their appendages, viz. the vessels which secrete the mucus

that defends the inner coat of the stomach, and those which secrete the gastric liquor, together with the membranous and villous coats, all come in for their share.

That the nerves in this disease have experienced a loss of tone, is evident from many considerations, particularly from the many remarkable morbid sympathetic actions, to which it frequently gives rise, in many other parts of the body. On the existence and variety of these morbid sympathies, I shall have occasion to enlarge hereafter. Admitting their reality for the present, I observe, that the nerves appear to be necessary to the existence of sympathetic action. Destroy one of the large nerves, and that part of the body which receives its nervous influence from it, will immediately become destitute of sense and motion. Facts in support of this assertion, have been often stated by others. It may not be amiss, however, to state the following case.

In the summer of the year 1804, I was called from a distance to visit a lad, aged about 14 years, who had fallen a few weeks before from a tree, thirty-six feet, upon a pile of stones. On my arrival I found him lying in a bed, and unable to move his legs or his body. A more minute examination exhibited a very large wound, directly over the spine, a little below the lower part of the neck. The precise state of the injury, owing to the tumefaction, and soreness, and the extreme pain which a change of posture occasioned, it was difficult to ascertain. I became however soon convinced of what I before could hardly doubt, that irreparable injury had been done to the *Medulla Spinalis*. After making such an examination of his state and circumstances as seemed necessary, a pin was repeatedly thrust about a quarter of an inch into various parts of his legs, without his making the least complaint, or even suspecting what had been done. A lighted candle was also held to his feet a sufficient length of time to have occasioned, in a healthy person, severe pain. Of this, too, he took no notice; yet the wound was exquisitely sensible. His mind, also, was active; he was able to converse without difficulty, and to eat his food with tolerable ease. He had no command over the

Sphincter Ani, and Sphincter Vesicæ muscles, but his fæces and urine passed without his knowledge. The spine was doubtless fractured, and such a degree of pressure had been made on the Medulla Spinalis, as wholly to destroy sensation and voluntary motion in all those parts of the body, which derived their whole supply of nerves from that part of it below the wound.

That the morbid sympathetic actions in question, are the result of nervous influence, is further evident from the fact, that certain violent stimuli taken into the stomach, greatly derange or destroy voluntary motion, before they can have entered the blood. Toad Stools taken into the stomach produce, in many instances, the most alarming and deleterious effects, without producing any inflammation in its coats, as is usual from arsenic, and other metallic poisons. Neither is there any reason to believe that the blood undergoes any change; yet the head, and the whole muscular system are sometimes greatly affected, to such a degree as to produce death. If the Toad Stools, after having begun to disorder the patient, are thrown off from the stomach by vomiting, a speedy and perfect recovery usually ensues.

The same truth might be further evinced from the operation of opium, upon the whole system, when taken into the stomach, or injected per anum. The effects of severe study, or close application of the mind upon the debilitated stomach, can be accounted for on no other principle.

That the muscular coat of the stomach is, also, in part the seat of the debility in question, appears highly probable, if not certain, from the following considerations.

In frequent instances at the commencement of the disease, and for a considerable period afterwards, and at times throughout its whole continuance, till it terminates in death, or till health is restored, especially in delicate young ladies, the stomach becomes so extremely irritable, as daily to reject by vomiting, a very large portion of the food which it has received, and such as was formerly, when in health, wholly easy and pleasant.

The contractions of the muscular fibres are here irregular, unnatural, and inclining towards or becoming spas-

modic, and of course the fibres themselves are debilitated.

In other instances, a powerful torpor of the stomach takes place, and the contractions of the muscular fibres are so feeble, that the alimentary mass, even when in a state of rapid fermentation, and already highly offensive and sickening, remains as a dead weight, incapable for a time of being thrown off. There is so little excitability left, that even this unnatural and offensive stimulus will not occasion vomiting. This state of the stomach I have often witnessed, and in such persons, when the stomach is free from this fermenting mass, powerful emetics will have little more effect, as I know from repeated trial. Neither is there in such cases, sufficient strength remaining in the muscular fibres, to force the alimentary mass through the pylorus, except in a very slow and imperfect manner. I have frequently known it to remain many hours and even days upon the stomach, after it should have been thrown off.

That the other coats are similarly affected appears probable, from the fact that such an intimate connection subsists between them, that we can hardly conceive of the one being disordered, without producing the like effect upon the other. Analogy lends some aid in support of this suggestion. Thus when one eye is afflicted with pain, or inflammation, or permanent debility, the other is often in a little time affected in a similar manner, and apparently from no other cause, than the intimate connexion or sympathy which exists between the two. Is it not reasonable to believe that the connexion subsisting between the coats of the stomach is far more intimate than between the eyes? Should it be said that it is difficult to conceive how a membranous coat should become the subject of debility, I answer, that it is equally difficult, previous to experience, to conceive how a membrane, which is usually apparently insensible, should be capable of inflammation, and when inflamed should be sensible to a very exquisite degree. That this often occurs, no one will deny.

That the blood vessels, and their appendages the secreting vessels, partake of the debility under considera-

tion, appears probable from the altered nature of the secretions. On this subject I cannot now enlarge, without anticipating what I have to say elsewhere. In vessels so small as the arterial and secreting vessels of the stomach, and removed at some distance in consequence of their minute ramifications, from the propelling power of the heart, is it not reasonable to suppose, that the force of the circulation depends considerably on the contractile power of the arteries, and that as the coats are debilitated, the contractile power of the arteries will be lessened? An increased local action in the blood vessels, and an increased circulation of blood takes place in every phlegmon. Why may not the contrary phenomenon occur?

To all these arguments, analogy lends some aid. That a local nervous debility takes place in some instances in other parts of the body, without affecting the rest of the system, unless by sympathy, will not, I suppose, be disputed. That a similar muscular debility also takes place, will probably be admitted. That a languid circulation of the blood may take place locally, while the general circulation is regular, seems to be admitted, with respect to the liver; why may they not all take place in the stomach?

Several respectable physicians, with whom I have conversed, have believed that the disease, commonly passing under the names *Dyspepsia* and *Hypocondriasis*, has its seat in the liver; or, in other words, that a morbid state of that viscus is the cause of it. This opinion appears to have been admitted without sufficient evidence, and chiefly, or solely, as I suppose, on the authority of some great names. In hot climates a schirrous liver is said to be a frequent complaint, as is also an acute and chronic inflammation of the same viscus; and in temperate climates very luxurious living sometimes occasions a morbid state of the liver. But these causes do not operate, except in a small degree, in this part of the United States. Among almost all the cases of *Chronic Debility* of the Stomach which I have seen, and they have been pretty numerous, there has not appeared to me any reason to believe that the liver was affected at all, except in consequence of the morbid state of the stomach, and from sym-

pathy with that organ. In all such cases it is probable that the circulation of the blood in the liver is languid, the blood itself thin and watery, and the bile which is secreted less stimulating and pungent, than is requisite to excite a due degree of action in the intestines. That the stomach is primarily and the liver secondarily affected, in most cases, seems probable from the fact, that the morbid sympathies to which this disease gives rise, in other parts of the body, are all owing to the state of the stomach, and none, so far as I have observed, to the state of the liver. I would remark further, that in those cases of the disease, which I have had an opportunity of examining at their commencement, and where in progress of time some reason appeared to apprehend a morbid state of the liver, the stomach uniformly appeared to me to be first diseased.

THE CAUSES of Chronic Debility of the Stomach are of two kinds, viz. those which operate immediately upon the organ itself; and those which act indirectly, by debilitating the body universally, or certain parts of it.

Those which operate immediately upon the stomach are,

1st. *Improper Diet.*

Under this head may be placed luxurious living, or the habitual use of highly delicious food; a very abundant use of sweetmeats and spices; an habitual and free use of tea and coffee, drunk too strong or too hot; ardent spirits; low living, or a diet not sufficiently nourishing; in the latter way I have known one person, possessing originally a fine constitution, and always having every advantage for good living, who brought on the disease, to a severe degree. Strong Tea and Coffee are causes of no small efficacy, in this country. Very luxurious living, though less general in this part of it, is a cause of some magnitude; but far the most powerful of all, is the immoderate use of ardent spirits.

2. *Gluttony, or eating an immoderate quantity of food.*

The stomach becomes in consequence of this indulgence unduly extended, and the gastric liquor is not furnished in sufficient quantity to dissolve it.

The muscular coat and the secreting vessels thus become weakened ; the food remains too long in the stomach, or is forced in a crude state into the intestines.

3. Tobacco, and other narcotics.

Tobacco, whether smoked or chewed, operates in two ways ; by its narcotic effect, in lessening the tone of the stomach ; and by the waste of saliva. Opium produces very powerful narcotic effects, and together with Tobacco, is a frequent cause of distressing and long continued dyspepsia. The worst case of the disease I ever met with, was produced either wholly or chiefly, by the abundant and daily use of Opium.

4. An immoderate use of sugar, acids, and various crude substances.

5. A very frequent use of certain medicines.

Some persons are ready on all occasions when indisposed, however slightly, to resort to medicines for relief, and generally to those of a very active kind. I know a sturdy mechanic, who, in consequence of costiveness, induced by a too sedentary life, resorted to *Lee's Pills*,* (a drastic cathartic) for relief. Their operation was certain, and it was cheaper at the outset than to apply to a sensible physician ; hence they were continued, till after taking about *eighty* boxes of them, the stomach and intestines became so torpid, that an evacuation could not usually be obtained without similar aid.

6. A cause intimately allied to this is the improper medical treatment of acute, and also of certain chronic diseases.

A gentleman some years ago was seized in the month of August with a low fever. Two physicians, under whose care he was placed, seemed to suppose, that most diseases were owing to "*a vast mass of morbid matter as black as tar, accumulated in the intestines.*" They accordingly drenched him for several weeks, with powerful doses of Calomel and Jalap, Scammony, Gamboge, &c. In this manner they thoroughly abraded his intestines, and so far destroyed their tone, that for many months he was afflicted with the most distressing costiveness, a loss of appetite, and general debility. The In-

* A patent medicine sold in great quantities in Connecticut.

testinum Rectum he was unable for a long time to retain, but it slipped down on the least exercise, and after every stool; his mind also became greatly enfeebled. In this state I saw him. After two or three years he recovered.

A very celebrated quack whom I knew, was accustomed in certain chronic diseases, to administer one hundred and fifty or two hundred Emetics, to a patient in a single year. That death was the consequence in many instances, I have no doubt.

The causes which operate *indirectly* in producing Chronic Debility of the Stomach, are all such as tend to weaken the body universally.

Under this head may be placed,

1. A severe attack of some acute disease. The effect of such an attack, it is well known, is not unfrequently to debilitate the whole body greatly, and the stomach peculiarly. I have known several persons, who, in consequence of severe attacks of the yellow fever, had their stomachs weakened to such a degree, that a long period of time elapsed before they were restored to their usual state of health. The debility of the stomach however, in these cases was, I acknowledge in my own opinion, owing in part, to a direct action upon it. To explain my meaning I would state, that the yellow fever is in my opinion a stomach disease, owing to morbid miasmata received into it, by means of admixture with the Saliva; and that to this cause is owing the excessive and very peculiar irritability of that organ, so often witnessed in that disease. The stomach appears to be the primary and principal seat of the disease, and to *draw other parts of the system by sympathy*, into a state of morbid action. In this way, only, could I account for the extreme debility of the stomach, which I have witnessed in some of the survivors. In other cases, as in severe inflammations of the lungs and liver, the part primarily affected often never regains its former strength.

Other diseases, which do not act peculiarly on the stomach, often occasion in it distressing debility, by the effect produced on other parts of the body. I could easily cite instances, were it necessary, to prove the assertion.

2. A sedentary life. With this cause, several others are often united, which not a little enhance the evil; such as great Indolence, certain mechanical employments, and daily exposure to an impure atmosphere.— Women, who take little exercise, often suffer greatly from this cause; and many, whose daily employments induce great weariness of the legs, scarcely exercise at all, out of doors. Clergymen, Lawyers and Students, generally, suffer from the same cause. Among the mechanical employments injurious to health, or in other words inducing nervous debility, are those of Goldsmiths, Tailors, and Shoemakers. The two latter classes are usually confined during the winter, in warm rooms, heated by close stoves, and all, when at work, commonly sit in a bent posture. Shopkeepers and Clerks, from long confinement to their shops and writing desks, often become dyspeptic and sickly. There are other mechanical employments which are common in some countries, and far more prejudicial, than those which have been mentioned, but which, being scarcely known here, I have not thought it necessary to mention particularly; such are all those, which require a frequent exposure to metallic fumes, and several of those which are carried on in large manufactories.

3. The excessive gratification of venereal desires.

4. Intense study, or application of mind.

5. The indulgence of evil passions, such as jealousy, envy, hatred, &c. Grief and fear, and excessive joy, are also highly debilitating, and particularly to the stomach. I have known some persons, possessed of great strength of body, and rigid fibres, who have injured themselves, not a little, by the indulgence of evil passions. Their stomachs at times, become thus debilitated, to a considerable degree, and permanently, and during a paroxysm of passion, suddenly filled with wind and acid.

We come next to consider *THE SYMPTOMS* by which Chronic Debility of the Stomach may be distinguished. By the term *symptoms*, we are to understand, the various discernible effects, which the disease occasions in the stomach and in other parts of the body.

The symptoms of this disease are of two kinds, those which affect the stomach and intestines, and which may

be termed primary; and those which effect other parts of the body, from sympathy with the stomach.

As the sympathetic actions of the system have appeared to me, when present at the prescriptions of physicians, to be usually, not sufficiently brought up to view, in forming opinions of the nature of diseases; and as many of the observations yet to be made will, unless such sympathies exist, be irrelevant, I shall, before I particularize the symptoms, make some brief remarks, relative to that subject. These remarks are intended to illustrate two points, viz. that a general sympathy exists between all parts of the body; and that a peculiar sympathy exists between the stomach and other parts.

That a general sympathy pervades the body is evident, from the following considerations.

1. Obstinate bleedings at the nose, and many other hemorrhages, may be often almost immediately stopped, by the application of cold water, to the surface of the body. A gentleman, who had bled to a very alarming degree, from the lungs, so as to endanger his life, unless speedy relief was afforded, was wrapt in a sheet, which had been dipped in cold vinegar, and the bleeding soon ceased.

2. The phenomena, which occur in the production of ague and fever, can be accounted for in no other manner. Every attentive practitioner, conversant with this disease, must have often witnessed the following facts which I have repeatedly seen, relative to that subject. Persons possessing sound health, and never subject to chronic diseases of any kind, on being exposed to cold and damp air so long as to be severely chilled, are often affected as follows. In consequence of the chill, or torpid state of the vessels on the surface of the body, induced by it, a universal paleness of the skin takes place. To this succeeds nausea, which is attended frequently with much acid and wind in the stomach; the heart and arteries cease to act with their wonted vigour; the pulse becomes small and feeble, and sometimes slower, but generally more frequent; universal languor and listlessness ensue, accompanied with frequent yawning. Pains in

the limbs, back, head and balls of the eyes follow, in many instances; the urine becomes pale and limpid, and is secreted in large quantities. Accompanying or succeeding these, we often find a severe ague. After some time the stomach, becoming more and more disordered, is at length relieved by vomiting. Soon an increased action takes place in the heart and arteries; heat in the skin follows; a copious sweat breaks out; and the patient is for a time free from his complaint. This fever sometimes consists of one paroxysm, and constitutes the ephemerai, or simplest kind of fever. If it returns after an interval of one, two, or three days, it constitutes intermitting fever. In either case, the symptoms are all a chain of sympathies. The primary disease is a disease of the skin merely. Hence it is so much more easily cured than other fevers.

Should morbid sympathies to a great extent similar, be occasioned by noxious miasmata, operating directly upon the stomach, by mixing with the saliva, the fever would become remitting, or typhus, perhaps of a malignant grade, would continue much longer, and be cured with much more difficulty. Here the *stomach* is primarily affected, and the disease is a disease of that viscus, or what I have ventured to call a *stomach fever*.

When the fever commences in the manner first specified, in a person having a disordered liver, several new sympathies take place. The disease is much more obstinate, and frequently cannot be cured, without particular attention to the disordered liver.

We come next to shew, that a peculiar sympathy exists between the stomach and other parts of the body. This may be evinced in two ways, viz. 1st. from the effects produced by morbid action, in the stomach, upon other parts of the body; and 2dly, by the effects of morbid action, in other parts of the body, upon the healthy stomach.

I. The Sympathetic actions produced by disease in the Stomach are very various, differing greatly in different persons, and in the same person, at different times. I will state a few only of such as I have often seen.

1. An Emetic taken into the stomach soon excites nausea. In consequence of the nausea a paleness of the

skin is induced, and a decreased energy in the action of the heart and arteries, the saliva, and the mucus from the bronchial vessels are secreted in much greater quantities than in health, or when the stomach is composed. As the stomach is excited into more violent action, vomiting is induced, and an increased action takes place in the heart and arteries. This produces a prickly sensation over the whole surface of the body, and usually an universal sweat ensues.

2. When the stomach of a person considerably debilitated becomes very empty, so as to excite severe hunger, a universal paleness spreads over the whole surface of the body. The pulse beats feebly and frequently, vertigo affects the head, the hands are in a continual tremor, and a great increase takes place in the secretion of the saliva.

3. Persons subject to tremors of the hands find temporary relief, from strong tinctures of the Peruvian Bark, or Colombo, or from a little good wine or brandy.

4. Syncope or fainting, occasioned by acrimony in the stomach, or by agitation of mind, or by inhaling an atmosphere vitiated by the respiration of a multitude of persons in a close room, may be usually relieved by a little brandy and water, taken into the stomach, or by dashing cold water on the face, or by volatile alkali held to the nose.

5. A small quantity of opium taken into the stomach occasions sleep, before there is a possibility of its mixing with the blood. An increased dose produces many symptoms of apoplexy.

6. A glass of very pungent small beer, or cyder, taken into the stomach after brisk exercise, in a hot day, occasions a prickly sensation throughout the surface of the whole body, in a few seconds, and often almost as soon excites an universal sweat.

7. When a person is much heated, and the circulation of the blood is greatly quickened by exercise, in a hot day, a large quantity of cold water taken into the stomach, will in many instances, suddenly induce severe spasm, and tetanus, and the most powerful stimulants, as laudanum and brandy, taken into the stomach, are the remedies most relied upon for relief.

8. Acidity and wind in the *prima via* of children produce convulsions.

9. Foul air being mixed with the saliva, and thus taken into the stomach, has produced a total cessation of all the animal functions, and apparent death.

II. The effects of morbid action, in other parts of the body, upon the healthy stomach, evince the existence of the sympathy contended for, as will appear from the following considerations.

1. Compression upon the brain, or a severe concussion of the head, usually produces nausea and vomiting.

2. Obstructed perspiration in the head sometimes occasions nausea, acidity, and wind in the stomach. I know a gentleman, who, whenever he puts pomatum and powder upon his head, experiences all these unpleasant symptoms, unless they are prevented by brisk exercise, and they continue till the pomatum and powder are combed out.*

3. Teething in children, which is wholly a local disease, often induces vomitings, acidity in the stomach, griping in the bowels, choler, cough, convulsions, and fever. Cutting the swollen gums alone, frequently gives great relief, and the cutting through of the teeth as usually perhaps, puts an entire stop to all the morbid symptoms.

4. Immediate vomiting may in many instances be excited, by tickling the throat and fauces with a feather.

5. Severe vomiting, owing to great irritability of the stomach, may be frequently relieved, when other means are ineffectual, by cloths dipped in laudanum, and applied to the Epigastric Region.

6. A blow upon the epigastric region, or pit of the stomach, will sometimes produce instantaneous death.

7. Dashing cold water upon the feet, will in some instances, procure an evacuation from the bowels, of a person obstinately costive. I know a gentleman who, whenever he wets his feet in the winter season, and suffers them to continue wet a sufficient length of time to produce slight chilliness, experiences a copious evacuation from the bowels. In several instances from walking a

* See Note A.

moderate distance in snow, partially melted, till his boots became thoroughly water soaked, much larger evacuations have been produced, than would have resulted from a heavy dose of calomel and jalap. It does not however usually occasion an equal degree of debility, with that which he customarily suffers from a cathartic; and almost immediately after the evacuation has ceased, his stomach and intestines will, by heating his feet, become tolerably composed. Another gentleman, whenever he undresses to bathe in river or sea water, experiences in consequence of the exposure of his naked body to the cool air, a free and almost immediate evacuation from his bowels.

A sympathy equally remarkable exists between the mind and stomach. This truth I will briefly illustrate.

1. Hard study or intense application of the mind produces wind, and acidity in the stomach, and costiveness, and general debility. Fools are observed to be proverbial for eating excessive quantities of food with sound digestion, while students are apt to suffer from loss of appetite and indigestion.

2. The indulgence of certain passions and emotions produce similar effects. A paroxysm of anger has occasioned, by its sedative effects on the stomach, sudden death.

3. Persons laboring under severe disease are sometimes completely and instantaneously cured by intelligence, which calls forth very sudden and strong emotions of the mind.*

Should the cause of this wonderful sympathy between the stomach and other parts of the body and the mind be asked, no hesitation can exist in attributing it to the distribution of the *Par Vagus*, or second branch of the eighth pair of nerves, and to its wonderful connexion with other nerves, particularly the *great sympathetic*. The *Par Vagus*, besides supplying the stomach, sends branches to the larynx, pharynx, trachea, oesophagus, vessels of the neck and heart, to the lungs, &c.; and by its connexion with the *great sympathetic*, a sympathy is established between the stomach and all the abdominal

* See Note B.

viscera, (viz. the liver, pancreas, spleen, intestines, kidneys, &c.) and the uterus, bladder, &c.

This sympathy was made by our Creator, for very wise and benevolent reasons. I will mention two only, which have presented themselves to my mind.

1. It appears to be a law of our nature, nearly absolute, *that the body is not liable to two general diseases at the same time.* If exceptions to this rule exist, they are rare, so far at least as my information extends. It also appears to be usually, perhaps almost uniformly the fact, that *one local disease*, or morbid action, arising in one part of the system, lessens or destroys a local disease or morbid action, which may have previously existed in another. I will briefly illustrate this subject. A person cannot at the same time, have the yellow fever and the measles. The operation of every blister in local inflammations or debilities, illustrates the latter assertion. Thus when from great irritability of the stomach obstinate vomitings take place, a blister upon the epigastric region, will afford great and often absolute relief. Hence when morbid sympathies arise from diseased action in the stomach, that viscus receives less permanent injury, than if no such sympathies existed. A transfer of a part of the morbid action is made from the stomach, to the sympathetic parts; and in some degree in proportion to the number or variety, and to the severity of the sympathetic actions, so that the stomach suffers only a part of the evil. Without this relief death would in many instances ensue, in consequence of the accumulation of morbid action in an organ so exceedingly tender and delicate.

2. We are thus warned of many things injurious to our health. In contemplating this subject we may, with the most evident propriety, say with the King of Israel, that "*we are fearfully and wonderfully made.*"

A physician accustomed to make accurate observations, might greatly benefit himself by noting, from time to time, such instances of sympathetic action as he met with in his practise.

THE SYMPTOMS OR MORBID EFFECTS of Chronic Debility of the Stomach are,

1. Those which exist in the stomach and intestines. These are acidity; wind; a rancid state of the aliment-

ary matter ; heat in the stomach ; a gnawing sensation ; a sensation of great emptiness ; swelling of the stomach ; an oppressive weight of that viscus after eating ; distention of the intestines ; depraved appetite ; loss of appetite ; unusual craving of food ; spasms in the intestines ; choleric ; obstinate costiveness ; or alternations of costiveness and diarrhea ; or continued diarrhea, a great part of the food passing from the bowels unaltered ; borborygmi ; phlegm in the stomach ; acid eructations ; eructations of a thin, watery, and insipid fluid ; frequent vomitings.

2. Those which exist in other parts of the body, and are owing to sympathy with the diseased stomach. These are vertigo, or swimming in the head ; dimness of sight ; pain in the balls of the eyes, with a continual tendency to inflammation ; head ache ; singing in the ears ; a partial or total loss of voice ; an early and rapid decay of the teeth ; the constant formation of tartar upon the teeth ; frequent teeth-ache ; a sallow complexion ; catarrh ; cough ; pulmonary consumption ; pain in the back, attended with heat ; wandering pains ; tremor of the hands ; pain in that part of the leg where the *Gastrocnemius* and *Soleus* muscles unite to form the *Tendo Achillis*, this is a dull pain, exactly resembling that which is induced by walking in tight boots in a hot day, till considerable fatigue is brought on ; cramps ; tetanus ; small cutaneous pustular eruptions, especially about the wrists and thighs ; hot flushes affecting the body generally, or a part of it ; shiverings ; syncope or fainting ; palpitations of the heart ; frequent yawnings and sighings ; a pulse irregular, intermitting, quick, small and feeble ; sometimes no visible perspiration from exercise, and sometimes copious and debilitating sweats ; sudden weariness of the body or mind induced by ordinary exertions ; liability to be greatly affected by changes of the weather, and to take cold easily ; great irritability of body ; great drowsiness, irregular sleep ; sudden startings in sleep ; laborious sleep, and sometimes constant watchfulness.

3. Those which affect the mind. These are great irritability ; habitual discouragement, or what is often called low spirits ; timidity ; anxiety ; irresolution ;

fickleness ; fretfulness ; taciturnity ; sadness ; imperfect memory ; strange whims ; proneness to reverie ; a fixed persuasion that the disease is incurable, and that it is of a totally different nature from what it really is ; great impatience at being thought less sick than the patient had thought himself ; frequent and strange dreams ; nightmare ; and sometimes settled melancholy.

These are all the symptoms which I recollect to have seen. That others may have occurred, I have no doubt ; but I believe none of much importance have been omitted. It is by no means to be supposed that all of these ever occur in one case, for no two cases are exactly or even very nearly alike. A general similarity runs through the whole, and so many of the symptoms are present in every severe case, as to leave no doubt about the nature of the disease. On several of these it will be necessary to enlarge, with some particularity. Previously to doing this, I shall point out the differences between the disease under consideration, and certain others, having symptoms in some degree similar.

These diseases are,

1. A schirrous or other tumor of the stomach. Of this it may be observed, that it is very rare ; that whenever it is so far advanced as to excite serious trouble, it occasions, according to accounts given of it, continual, severe, fixed pains ; that the usual remedies for dyspepsia afford no relief ; and that a tolerably correct opinion may be formed from the manner of its commencement and progress.

2. An arthritic humor in the blood. With respect to the existence of such a humor, although much has been written by ingenious men on the subject, not a shadow of proof has been exhibited, so far as my knowledge extends. When it shall be exhibited it will be time enough to consider it ; till then it may be fairly ranked with other ingenious whims, which have served to amuse their authors and mislead mankind. That there is in some instances what is usually termed a *retrocedent gout*, there can be no question ; or, in other words, there is a translocation of the morbid action ; or, in other words still, the several morbid actions which constitute a regular case of

gout, sometimes suddenly leave the feet chiefly or wholly, and several distressing and occasionally alarming symptoms as suddenly appear in the stomach. A similar translation of morbid excitement takes place in many other diseases. I knew a patient wasting rapidly with the pulmonary consumption, who, at a certain time during the progress of this complaint was seized with mania. Immediately on the commencement of the latter complaint, the hectic fever, the night sweats, the expectoration, the cough, and in short every symptom of the former one vanished. After the lapse of several days his mind became rational and composed, and then, and not till then, his former disease returned, and with redoubled violence. We might therefore, with the same propriety, talk of a maniacal humor, a pulmonic consumptive humor, or any other humor that happens to please our imagination.

3. The hysteric disease. With respect to this subject I can say nothing which has not been said by others, and shall only observe, that there is usually no difficulty in determining the nature of the complaint; and that many of its most distressing symptoms are connected with, or occasioned by debility of the stomach.

4. There is a morbid irritability of stomach sometimes met with, which is constitutional and peculiar; in consequence of which great distress is occasioned by certain kinds of food, which to most persons not only produce no inconvenience, but prove mild and nutritive. Thus, some persons are unable to eat strawberries, others cheese, and others other kinds of food, without great inconvenience. Certain anomalous symptoms usually attending such cases, the previous state of health, and the physician's own sagacity, will ordinarily leave no doubt as to the nature of the evil.

Having endeavored to clear the way of all obstructions, I shall next consider, some of **THE EFFECTS** of Chronic Debility of the Stomach. I mentioned them all briefly together, that they might be seen at one view.

I. **THE PRODUCTION OF ACIDITY IN THE STOMACH.** This is the first and most distressing effect, and

the parent of many others. As I have no where seen any discussion of this subject; ; as it appears to me to be of no small importance; and, as the ideas, which I shall advance relative to its nature and effects, may not be readily admitted by others; I shall examine it with some minuteness. It appears to be the general opinion of physicians, so far as my information extends, that the acid found in the *Primæ Viæ*, is derived from a fermentation of the alimentary matter. That such an opinion should have universally prevailed, is not to be wondered at. It is not long since the medical world attributed the process of digestion chiefly or solely to this cause. That the acid, which is sometimes found in *healthy stomachs*, is produced in this way, I have no doubt; and that the acid found in debilitated stomachs is, in many instances, owing to the same cause, I also admit; especially where the disease consists of what may be termed a paroxysm, that is, an attack which lasts from one to four days, commencing suddenly, and leaving the stomach free from the evil, by means of a spontaneous diarrhea, or some other cause. Such paroxysms I have often known. The disorder in this case is brought on usually by eating acid fruits, or beans, or peas, or other vegetables, which are tough and old, or pastry, or by drinking wine or porter in a slight degree sour, or by eating to excess food generally healthful. The acid in this case evidently proceeds from fermentation, and the great quantity of gas or wind extricated, together with other circumstances unnecessary to be mentioned, prove it. But there is an acid state of the stomach differing widely from all this, often continuing many weeks, and months, and sometimes years, without material abatement, and this in spite of all regulations of diet; often lessening the appetite greatly during its continuance, producing obstinate costiveness, and excessive torpor of the stomach and intestines, without ordinarily occasioning wind in those viscera, at least to a greater degree than is usual to those who enjoy sound digestion; producing also headache of many months continuance, or daily periodical headache and universal debility, and sometimes, perhaps usually, connected with an acid state of the saliva. This also admits of aggrava-

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tions or paroxysms, induced by various causes. The acidity in such cases I suppose to be owing to a *morbid secretion of the gastric liquor*. I began to be of this opinion in the month of August 1803, or rather I was led at that time to attribute it either to this cause or to a *decomposition of that fluid*, after it was secreted. At the period specified, the stomachs of some persons at Catskill, who had the yellow fever, generated such enormous quantities of a most corrosive acid, without having taken such food as would be likely to produce it, and almost without any food at all, that it seemed to me inexplicable in any other manner. Cullen has suggested the possibility of such a derivation, in some cases, but considers imbecility of the muscular fibres, as *almost the sole cause*.^{*} Some of the arguments, which have led to this conclusion in my own mind, I will proceed to state.

1. The existence of a very sharp corrosive acid, without being accompanied by gas or wind. Probably every person severely affected with permanent debility of the stomach, may have experienced something of this nature. I have often experienced it, and in some instances for three months, without any intermission, and should probably continue to experience it, till it ended in the destruction of life, did I not throw it off, by brisk and long continued exercise. During its continuance, I am every day affected with a greater or less degree of headache, and constantly lose flesh and strength, while it is still unattended with wind in the stomach and intestines, or with a greater quantity than is usual to persons in good health. Neither is it accompanied by what is commonly termed a foul stomach. The stomach becomes exceedingly torpid, and requires a very large dose of some powerful emetic to excite vomiting, and when it is induced, nothing is brought up but an *acid mucus*, unless, by violent straining, bile should be forced from the duodenum into the stomach. The acid is often extremely corrosive, so as in some instances, to excoriate the fauces. The vomiting however is of no service. It greatly weakens the stomach for a time, and in twenty-four hours the acid is as abundant as ever. Now if it was produced by a fer-

^{*} See Note C.

mentation of the alimentary matter in the stomach, there would be a constant extrication of gas, and this would bear some proportion to the quantity of acid. I have also almost uniformly found, that where the disease consisted of a paroxysm, produced by acid fruits, or other food, occasioning a rapid fermentation of the alimentary mass, vomiting was easily excited, and gave complete relief; and, in the course of twelve or twenty-four hours, the stomach became composed; or a spontaneous diarrhea came on, and produced a similar effect.

The acid, at times, without the aid of any fermenting mass in the stomach, comes on with great violence, and in spite of all efforts short of brisk and repeated riding on horseback, or much hard labor, lays prostrate the whole energy of the system. In spite of my utmost endeavours to overcome it, I am sometimes compelled to give way to it for short periods, and even to betake myself to my bed. When the paroxysm is less severe, it is often the case that one half of the strength of the muscular and nervous systems is destroyed, during its continuance. At such times I am able to walk but short distances, without great weariness, languor, faintness, and sometimes manifest disadvantage; and any degree of walking which I can then accomplish, will not occasion sweating.

The following brief recital may further illustrate this subject. In the month of July of the last year, during some very hot weather, I imprudently laid aside the use of a flannel shirt. No immediate ill effects apparently resulted from the want of it; but in six or eight days my stomach became highly acid, and at the end of the first fortnight I was seized with a severe attack of cholic. The acidity was now become intense, and the saliva disagreeably sour. No flatulence accompanied or preceded the paroxysm. By putting on a thick flannel shirt, which excited much irritation on the skin for a short time, I speedily obtained relief.

2. The effects of severe study, or application of the mind, upon the debilitated stomach. This uniformly produces a great influx of acid into that viscus, an acid of a very corrosive nature, and producing by sympathy, great debility throughout the system. So great effects

cannot be owing, it appears to me, to fermentation. The cause assigned does not appear adequate to the production of evils, so suddenly induced, and attended with such distressing consequences.

3. Strong passions of the mind often produce an influx and accumulation of acid in the stomach, in a very short time; much sooner than we are authorized from acknowledged facts, to attribute to fermentation. A person, who has not been attentive to this subject, would be greatly surprized to witness the effects, which sometimes result from this cause. Any unusual agitation of mind produces a similar effect. A lady, who suffered a sudden and violent fright, perceived an immediate and copious influx of acid into her stomach. She was previously free from this evil.

4. This opinion derives no small support from the effects which are in some instances produced on the stomach, by a blow on the head, or a concussion of the brain, or a general concussion of the body, occasioned by falling from a height. One of the effects of such violence done to the system is, often, the sudden production of nausea and vomiting. The matter ejected by vomiting is frequently acid to a high degree, and this too in stomachs, where acid before was rarely or not at all experienced, in persons of very robust habits, persons accustomed to eat all sorts of food with impunity, hard labouring men, such as would ridicule the idea of acidity or debility of the stomach as applied to themselves. How shall this be accounted for? In my own opinion, only in the following manner: The stomach becomes either primarily, or sympathetically, or in both ways, immediately disordered, and to such a degree as to occasion great alterations in the secretion of its fluids, both in their nature and quantity. Every one who has been conversant with subjects of this nature, must have noticed that, in cases where the violence done to the system is considerable, the pulse immediately ceases to beat, and a universal torpor and coldness, like the coldness of death, comes on as suddenly, over the whole surface of the body. This state of things greatly increases the disorder of the stomach, and the acid flows forth from all its secreting vessels. The

acidity of the stomach, in slight cases of this sort, is not evident to a cursory observer in some instances until a considerable period has elapsed ; in others acid is vomited up, in large quantities, in fifteen minutes, in others in ten minutes, in others in five, and even sooner. Does a morbid secretion begin and advance to this extent so speedily ? I have no hesitation in asserting my belief that it does. In severe cases, and in debilitated stomachs, it commences perhaps immediately after the injury is done. I well remember that in two instances, where I suddenly fainted away from extreme pain occasioned by violence done to a particular part of the body ; I found on reviving, great coldness on the surface of the body, and much acid in the stomach, where before there was little appearance of that evil. The paroxysm, in either case, did not exceed four or five minutes. Is it not reasonable to conclude that, the secreting vessels commence a wrong action at their mouths, as soon as they are disordered, from the concussion, or from the derangement of the brain, or from the torpor and chilliness of the cutaneous vessels ; and that this wrong action is propagated throughout the secreting vessels almost instantaneously.

The following case may serve as an illustration of the foregoing assertions : About a year ago, one evening on my return from a journey to New-York in the stage, a lady, who had appeared through the day to be in perfect health, was suddenly rendered unwell in the following manner : In consequence of the destruction of several bridges, and other injury done to the turnpike road by repeated and copious rains, it was necessary in a certain part of the route to pass over several miles of an uneven and stony bye-road. In a particular part of this road lay a small bridge, the descent from which was between one and two feet. We passed over this bridge rapidly. The fall of the carriage was sudden and violent. The passengers were all much jolted, and the lady abovementioned immediately fainted. On her account we rode the remainder of the distance slowly to the stage house. It was between twenty and thirty minutes before we arrived. During the whole of this period she continued totally bereft of

sensation and voluntary motion. It became necessary for me to support her in my arms. I perceived within five minutes that her stomach was considerably acid. Immediately on stopping, by the aid of brandy applied to her nose and face, she vomited freely and became speedily well. Her skin throughout was cold like that of a dead person, and no warmth was restored till the vomiting took place. From various circumstances, I am satisfied that her stomach was entirely composed previous to the occurrence, and that the acid was formed afterwards, and in consequence of the shock abovementioned.

5. Sudden changes of the weather, or standing in the open air with wet feet, in cold and damp weather, till a general and considerable chilliness is experienced, has a similar effect, on the stomachs of many dyspeptics. In proof of this assertion, I would alledge the following case.

A gentleman who had been for ten years troubled at intervals, with severe debility of the stomach, and much acid in that viscus, being in good health, one day in the month of April last, instead of wearing his boots as he had uniformly done for six months preceding, wore shoes. Though he was out of doors but a short time, yet he experienced in two or three hours chilliness, and acid in the stomach. A severe headache ensued, and though he put on his boots very soon after the commencement of his ill feelings, and kept on an abundance of clothing, yet they rapidly increased; so that he found it necessary to go to bed in the beginning of the evening. Within fifteen minutes he had several smart agues. These were succeeded by very severe cholic, and extreme acidity in the stomach, and in a little time violent vomiting was induced.

There was very little appearance of wind in the stomach or intestines, nor any bile vomited up. During the vomiting, a copious sweat broke out, which by the addition of bed clothes, was kept up through the night. The next morning the patient was nearly as well as usual. After an attentive examination of this case, I could not hesitate to attribute the head ache, the agues, and the cholic, to the acidity of the stomach, and this to a morbid secretion, brought on from sympathy between the secreting ves-

sels, and the feet, rendered torpid by unusual exposure to cold. I have often experienced similar effects, from similar causes, but much more suddenly following them.

6. This opinion is rendered probable from the state of the saliva, in some dyspeptics. In those severe cases of the disease where the stomach is affected with mere acid, the saliva is acid also. This fact I have experienced many hundred times, and for months together, without any mitigation. The kind, and degree of sourness, it is difficult for me to describe definitely. If the acid in the stomach is occasioned by fermentation, how shall this phenomenon be explained? In those paroxysms of acidity, unquestionably occasioned by a fermentation of the alimentary mass, I have not known an acid state of the saliva. But if we admit that there may be a morbid secretion, or a decomposition of the gastric liquor, the difficulty will be removed, since the former fluid is employed in preparing the aliment for the action of the latter, since it possesses corrosive and antiseptic properties, and has a far greater affinity to the gastric liquor than any other animal fluid, except the pancreatic.

7. The following case affords additional evidence in favour of the opinions which I have endeavoured to support.

In the summer of 1804, I was called to visit Mrs. —, a lady aged about 30, of an exceedingly delicate and irritable habit. She inherited a feeble constitution, had been married very early, and went through her first labour when she was a little more than sixteen years old. She was shortly after attacked with puerperal fever. From this disease she with difficulty escaped, and continued in a low state, a long period of time. When I saw her she was the subject of great general debility, and of singular weakness of the stomach. She was also greatly distressed by a continual and copious influx of acid, into that viscus. The paroxysm had been on about twenty-four hours. During that period, and for some time previous, she had taken no sustenance, and was unable to retain any thing upon her stomach, but was afflicted with very frequent and painful vomitings. She brought up nothing, however, but thin mucus, and this was discharged in great

quantities, and of a very deep green colour. The colour was of about the same intenseness, as the leaves of the hemlock tree, and was owing as I suppose, wholly to acidity. The mucus was so extremely acid as to excite great distress, whether it remained in the stomach, or passed the fauces by vomiting. It occasioned, repeatedly, severe spasms, and could not be materially checked, by such measures as were made use of, under twenty-four hours more. About that time the disorder ceased, the irritated organ became composed, and she soon regained her usual health. This paroxysm was occasioned as I suppose, by the debilitating effects of extremely hot weather, and some irregularities of diet and exercise, operating upon a system universally predisposed to disorder, and upon a stomach intensely irritable, always prepared to engender acid, and to sympathize with every morbid affection of the body or mind. Could the phenomena here recited, have been occasioned by a fermentation of the alimentary matter? Should the answer be given in the affirmative, I would ask what there was in her stomach, to undergo the process, besides mucus, and the gastric liquor? Should I in my turn be asked, how such an enormous secretion, of so depraved a fluid, can take place from the vessels of the stomach, I answer, that from some cause or other, which man perhaps cannot explain, a determination of the fluids of the body is induced towards, or in, its secreting vessels, so that in the case specified, the quantity secreted was ten, perhaps twenty times as great, as in an equal space of time, in health; and the secreting vessels, in consequence of being surcharged with fluids, were thrown suddenly into a state of violent morbid excitement.

Phenomena in many respects similar to this, occur daily, in the production of diarrhea, and dysentery. I will illustrate my meaning, by a brief recital of the following case. A gentleman some years ago, having occasion to perform a short journey, left home in the evening, and rode a considerable distance in an open carriage. The day had been very hot, and being in high health, he had not provided that additional clothing which

is usually necessary, on such occasions, even in a hot night. After riding several hours, he became severely chilled. He continued his journey till some time after midnight, and when he stopped went immediately to bed, without taking food, or even warming himself. He had not been long in bed before he was forced to rise, from severe pain in the bowels, and in a few minutes he discharged more than four quarts of fluid fecal matter, chiefly mucus. This was doubtless owing to the torpor, induced on the whole surface of the body, by means of the chill, and the consequent retreat of the mass of fluids towards the intestines. Is not the latter event in all respects, except its frequency, as extraordinary as the former? Let it be further remembered, that the fecal matter which is discharged in many cases of diarrhea, and dysentery, induced in a manner similar to that in the case specified, is highly acrid, so as often to excoriate the intestines; may I not say so as in some instances to occasion death? Whence does this acrimony arise?—Surely not from a fermentation of the alimentary matter? The next subject of enquiry is, whether the acid *in question*, may not be occasioned by a decomposition of the gastric liquor? For a considerable period I remained at a loss to determine, whether we must look to this cause, for the source of the evil, or to a morbid secretion of that liquor. Having not long ago investigated the subject more minutely, I have become satisfied, that it is owing to the latter cause; and in no instance to the former, *where the fluid is secreted in a healthy state, that is, possessed of its usual properties, and no other.* In all other cases the acid is occasioned by a fermentation of the alimentary matter. The reasons which have led to this conclusion, I will proceed to state.

1. In several cases which have been stated, and in others which might be, there appears to be no cause adequate to the production of a decomposition of the gastric liquor; if we admit that that fluid *was secreted* in a healthy state. There is no unnatural heat in the stomach, nor any known chemical agent, introduced by the mouth. The effect, also, is often too sudden, and too considera-

ble, to be produced by decomposition, without the aid of chemical agents.

2. The nature of the gastric liquor is such, as to render it highly improbable, that it should undergo such a change, unless it was first secreted in a morbid state.— Though I have not been able to obtain any chemical analysis of it, on which much reliance can be placed, I can state the following interesting fact, which proves what is generally admitted, but by some respectable writers denied, that this fluid possesses singular antiseptic powers. Some years ago, Æneas Monson, M. D. late President of the Medical Society of Connecticut, obtained about a quart of gastric liquor, from the stomach of an ox. The animal, previous to its being killed, had been fasting an unusual length of time. Notwithstanding this advantage, the butcher who collected it, did not obtain it so pure and free from admixture with other substances, as was expected. In consequence of this fact it was put into a junk bottle, tightly corked, and placed by a servant in the cellar, on the top of the wall, by the window, with an intention of letting it stand a few days, to settle. When it was called for, the servant was unable to find it. It remained in this situation between one and two years, before it was discovered. On opening it, it was found to be perfectly sweet, and to smell very exactly like the breath of a healthy cow. This occurred during the hottest weather of the summer. The liquor was carefully poured off into another bottle, which was well corked, and set aside in a proper place, where it remained a year longer. It was then opened, and the liquor had apparently undergone no changes, but was perfectly sweet.— Now when it is remembered that this liquor was obtained, not from the stomach of an omnivorous animal, as man, but from that of a herbivorous one, and that the gastric liquor of the former, as is admitted by various physiologists, is less disposed to ferment, than that of the latter; that it remained for such a length of time, exposed to great alterations of heat and cold, and to the influence of light; it may with the utmost propriety be asked, *is it credible that a liquor possessing such properties, should*

undergo decomposition, in the stomach, in two or three hours?

3. The argument derived from analogy lends its whole force, to support the same conclusion. Many of the other fluids of the body are, at times, in a morbid state. This is true of the wax in the ear, the milk, the urine, the pus of ulcers, the sweat, and the saliva: might I not say of the bile also? I have in another place mentioned the existence of acid saliva. I know a gentleman, who, some years ago, suffered much from general debility, and very uncommon weakness of the stomach and intestines. During the hot weather, light exercise would throw him into a profuse sweat, so that numerous drops would stand upon his forehead. This was, as I often observed, of a very strongly acid smell, immediately after it appeared, or, in other words, before it could have undergone any decomposition. Should it be supposed, however, that it was owing to decomposition, I would enquire why we do not find the sweat of healthy men, becoming acid in the same manner? The milk of the female undergoes changes more remarkable, and in very frequent instances. It is well known that the milk of the cow is often disagreeably flavoured, with the food she eats, or by violent exercise. It is equally well known that infants at the breast, are often disordered, by irregularities in the diet of the mother, or nurse. Acid, gripings, and wind in the stomach and intestines, cramps and convulsions, and even death itself are sometimes the consequence. The milk is asserted, by respectable authority, to have been salt and bilious. Experiments have been made which prove, that it is sometimes essentially altered, in its properties, by a change of diet. Thus it appears that certain animals, confined wholly to a vegetable diet, secrete a milk acedcent, and easily coagulating, which when fed wholly on animal food, secrete a milk alkalescent, and not spontaneously coagulating. There is also, in some instances, a deficiency in the quantity secreted, and in others, a redundancy. The bile sometimes undergoes changes, from sudden and violent passions of the mind, and from other causes. The urine differs wonderfully, in different persons, and in the same person at different times, when in

health, and much more in disease. I have seen urine of a deep green colour. The secretion of the mucus matter from the schneiderian membrane, is greatly altered, by what is usually termed *a cold in the head*. Whenever I take cold, the whole force of the disorder is, in most instances, spent upon the stomach and intestines. Why should not the gastric liquor be affected by it? Nothing perhaps will serve better to illustrate this subject, than the changes, which frequently take place, in the matter discharged from ulcers. The simple purulent ulcer is a disease, it is well known, entirely local, yet it is capable of undergoing great changes, from affections of the system. In healthy persons the matter secreted on its surface, is a mild bland liquor, called by surgeons *laudible pus*. In persons greatly debilitated and highly irritable, it not unfrequently possesses considerable acrimony and fœtor. A healthy patient, who has undergone an amputation of a limb, will usually, when the wound becomes an ulcer, or when the secretion of matter takes place on its surface, experience considerable mitigation of pain; the discharge will, with proper treatment, be a *laudible pus*, and the patient will speedily recover: but if, when the inflammation in the wound subsides, and the *pus* is secreted, the patient, instead of being kept on nourishing diet, should be confined to that of a contrary nature, and should receive few or no stimulant or tonic medicines, the matter secreted would soon change its colour, become thin, acrid, and fœtid, and excite great irritation in the patient; but if, in this situation, he is furnished with a due quantity of bark and porter, or good wine, and nourishing diet, all the unpleasant symptoms will in twenty-four hours, be greatly mitigated, and if this course is pursued a little time, be wholly removed. I suppose no one will contend that, in such a case, the *pus* is decomposed. It will probably be admitted by all, that it is secreted in a morbid state. Is there not a morbid secretion in every phagedenic ulcer? Who ever heard of ear wax decomposed in the ear, or milk in the breast of a female? Especially can it be supposed, that these things will take place, if the several fluids are secreted in a healthy state? One fact further relative to this subject, and I have done,

A gentleman having suffered the sebaceous matter which is secreted under the prepuce, to remain till it had acquired some acrimony, was affected as follows. A very great increase took place in the secretion, even to more than twenty times the usual quantity, and instead of its ordinary mildness and consistency, it became highly acrid, thin and of a pale colour. In spite of the utmost attention, it continued many weeks, and was with great difficulty removed, by the aid of very powerful stimulants. Now I would ask, is there any greater difficulty in admitting a morbid secretion of the gastric liquor, than there is in admitting the existence of the facts abovementioned? It may be remarked further, that when secreting vessels have taken on wrong action, it is, in many instances, difficult to restore them, and that when relieved, they are apt from very slight causes, to be disordered again. I have dwelt the longer on this subject, because all the physicians with whom I have conversed, excepting one or two, have been wholly unwilling to admit, even if the gastric liquor were supposed to undergo any changes, that it could be secreted in a morbid state; but have supposed that such changes must be owing to decomposition. If it is secreted in a morbid state, I cannot say that it does, or does not undergo further changes in the stomach. I have no facts in my possession, which will warrant me to form a decisive opinion on this subject.

What the nature of this acid is, I do not know. Dr. Eli Ives, of this city, supposes it to be the phosphoric; from its strong resemblance to that in taste. No chemical analysis of it has been made, within my knowledge. Phosphoric acid has been discovered in the gastric juice of the sheep, the calf, and the bullock, and from these circumstances it is not impossible, that the conjecture is right.

The effects which the acidity in question produces, are, many of those which have been already mentioned, as symptoms of Chronic Debility of the Stomach. I say that these are produced by acidity, because I have often experienced many of them in my own case, and seen them in other cases, taking place immediately on the commencement of a paroxysm of acidity, and subsiding, and

ceasing, as that paroxysm abated, and went out. These are a gnawing sensation in the stomach, a sensation of emptiness, severe hunger shortly after eating, irregular appetite, unusual craving of food, cholic, spasms of the intestines, tetanus, costiveness, diarrhea, acid eructations, vertigo, headache, decay of teeth, tremor of the hands, pains in the legs, cutaneous eruptions, cough, catarrh, pulmonary consumptions, and low spirits, and all the other morbid affections of the mind. All symptoms are greatly aggravated by an acid state of the stomach. All the above morbid effects in dyspeptic persons are occasioned by acidity exclusively, except cholic, spasms of the intestines, tetanus, costiveness, diarrhea, vertigo, headache, cutaneous eruptions, cough, catarrh, and pulmonary consumptions. I know not that cholic in adults is usually attributed to acidity, but have met with several marked cases of it. The only case of tetanus occasioned by it which I have seen, or heard of, is the following. Mrs. —, the lady before mentioned, who was so remarkably troubled with acidity in the stomach, being extremely afflicted with her old complaint, and her mind being irritable and fickle, was carried out one morning in the month of March, some years ago, about four miles from home, to spend the day at the house of a friend. Some hours before evening she became anxious about her children, and in spite of all remonstrances, she refused to wait for her carriage, and returned on foot. The weather was raw and damp, and she was dressed with the clothes of summer. Early in the evening she complained of being unwell, but as she was frequently indisposed, no particular attention was paid to her, till about midnight, when I was sent for. Her husband was absent, and there was no member of the family present who was qualified to direct, or to judge discreetly about her case. Some neighbours had been called in, and from them I learned what has been already related, and became satisfied that her complaints were owing to excessive disorder of the stomach, induced by unusual fatigue and chilliness. She was affected with tetanus to a very severe degree, so that her head, neck, limbs, and every part of her body were perfectly rigid. A case apparently more

threatening, I believe to be rarely met with. Though her eyes were open, she appeared wholly insensible, and her pulse was threadlike, fluttering, and apparently on the point of retiring finally. I had not long to deliberate. She had lost several teeth. I attempted to pour something through the passage down her throat, but the muscles of the fauces and cheeks, and the tongue, partook of the disease to such a degree, that every attempt was fruitless. The liquid immediately ran out at the sides of her mouth, and not a drop was swallowed. It occurred to me that I might possibly attain my object, by pouring a drop or two of volatile spirits of ammonia into one of her nostrils. Having a small quantity of it near at hand, which was highly pungent, I went for it, and after I returned, in attempting to accomplish my object, some of the bystanders being curious to see what I was about, hit my elbow. In consequence of this, about a teaspoonful was forced into her nose, and as her head was at this time bent greatly backward by spasm, it all reached her throat. In a moment her whole body became relaxed; she was seized with the most violent coughing which I ever witnessed; but soon recovered so far as to speak, and appeared to be greatly distressed. The coughing was so extremely severe, and continued so long without abatement, and the appearances of strangulation were so threatening, that the bystanders were terrified, and I was at a loss for a few minutes concerning the consequences. In a little time, however, she became so far composed, that she was able to swallow sixty drops of laudanum. In ten minutes from this time, her tetanus returned with as much violence as before. I resorted to the same measures to restore her, as in the former instance, except that a few drops only of the spirits of ammonia were administered. This had the desired effect, without producing a very distressing cough. As that subsided, I gave her sixty drops of laudanum the second time. As often as she appeared relapsing into her former state, the volatile alkali was used, and before two o'clock in the morning, I had given her three hundred drops of laudanum. As she then appeared in a great measure composed, I desisted. The ensuing day she was pretty well. Acidity in

the stomach alone, would not, I suppose, have produced so great an effect, without the aid of other causes. The other causes, surely, would not have produced them, without the acidity. The acidity was the *causa sine qua non*.

II. WIND IN THE STOMACH AND INTESTINES.—

This evil is produced by a fermentation of the alimentary matter. In healthy stomachs such a fermentation usually exists, in a very small degree only; but on some occasions from over-eating, or from a very free use of acid fruits, or from fatigue, or from such an exposure to cold and wet as to induce torpor in the extremities, or over the surface of the body generally, aided by the other causes, it is excited in a considerable degree even in them, for a short time; but in such instances the excess of acid which ever accompanies it, usually occasions a free diarrhœa, and the patient in a few days enjoys his customary state of health. In dyspeptics, on the contrary, the fermentation is occasioned by a very slow and imperfect digestion, which is owing to the morbid state of the gastric liquor, and to the debility of the muscular coat of the stomach. This debility of the muscular coat will occasion on the one hand, a relaxation of the plaits or folds about the pylorus; and thus a protrusion of some parts of the alimentary matter into the intestines will take place, before it has undergone any considerable change; and on the other hand, the muscular contractions will be so feeble as not to force all the alimentary matter through, in due time. The heat and morbid juices of the stomach, and the liquids which were taken in with the food, will occasion it in many instances, to undergo a very rapid fermentation. The quantity of wind extricated will sometimes be enormously great. I knew a person, who, from eating moderately of various kinds of food which to healthy people are always mild and inoffensive, was on some occasions afflicted with this evil to such a degree, that eructations of wind were induced, which continued for two hours, with scarce a moment's intermission.

THE MORBID EFFECTS which wind produces, are, distension and spasms in the intestines, borborygmi, cholæ,

eructations, vertigo, wandering pains, palpitations of the heart, yawnings, sighings, irregular sleep, drowsiness, strange and frequent dreams, whims, low spirits, and many indescribable sensations, as some persons term them. It also aggravates most of the other symptoms of the primary disease. That these are the genuine effects of wind in the alimentary canal, is evident from the fact, that when it is expelled by carminatives, they frequently cease. They come on as the wind is produced, and disappear as that disappears. Women are much more afflicted with this evil than men. The causes of this fact are, a too sedentary life; thin dress in cold weather, in consequence of which the body becomes chilled; thin shoes, by which the feet often become very cold and wet; and lastly, eating too freely many improper sorts of food.

III. RANCIDITY IN THE STOMACH. This complaint is occasioned by a too free use of oily food, such as gravy, melted butter, fat meats, particularly such as are smoaked, rich pastry, and by old and dried beans and peas.—That the oily food which I have specified is prone to become rancid in the debilitated stomach is evident from the following considerations. Butter imperfectly freed from the buttermilk becomes, in warm weather, from no other causes than exposure to heat and the surrounding air, speedily rancid. How much more ought it to be expected, that such an admixture of oils with fermented and unfermented acids, with pastry imperfectly baked, with hot drinks, distilled spirits, and all that mass of vegetable and animal matter, which make up the diet of many persons, should, when aided by the heat of the stomach, and the fermentation going on there, produce this effect! Animal oils are probably used to a greater extent, as food, in this country, than in most others. In travelling several thousand miles, in the states of New-England, New-York, New-Jersey, and Pennsylvania, I have every where met with great excesses of this sort. As the people of the United States are, to a great extent, from the manner in which it has been settled, and from their enterprizing character, accustomed to travel, it may be fairly concluded, that such food is served up at the inns, as is generally agreeable. Here we often find fat meats, brought

on to the table, swimming in gravy or melted butter ; a very general use of toasted bread, soaked and resoaked in the latter article. In many parts of the country westward and southward of New-England, the meats of all sorts are, to a great extent, fried in fat ; and in the northern parts of New-England far more gravy, and melted butter, and fat meats are used than are healthful, except for very robust and hard labouring people. This state of the stomach, connected with Chronic Debility of that viscus, is the most distressing that I have ever seen. All the evils resulting from acidity, are here to be looked for, in their worst forms. Obstinate habitual headaches are frequently, and wholly removed, merely by the dis-use of gravies and fat meats.

IV. *COSTIVENESS.* This is a very common, and most troublesome effect, of the disease under consideration. It is usually greatly aggravated by acidity, and in its turn not a little increases that complaint. It is induced in part also, by weak muscular action of the stomach and intestines, and by deficiency in the quantity and quality of the bile. It often exists for a great length of time, and to a very distressing degree. No person can continue to feel well, who is habitually costive.

V. *DIARRHEA.* This complaint, in dyspeptic persons, is of two kinds, that which consists of short paroxysms, succeeded by long intervals of costiveness ; and that which is habitual, continuing many months, and sometimes years. The first is owing to an extremely irritable state of the stomach and intestines, thrown into violent and irregular excitement, by acid fruits, and pastry, and various other indigestible species of food : the second to an excessive torpidity of the same viscera, in consequence of which the food passes through the intestines, nearly in the same state, in which it was received into the stomach. This complaint is often extremely debilitating, and troublesome.*

VI. *PAIN AND WEAKNESS OF THE EYES.* These are sometimes extremely troublesome, and not uncommon effects of the same disease. When they are produced by this cause it may be usually known, from the time

* See Note D.

and manner of their commencement, from their increase or abatement, as the acid, wind and costiveness are lessened, or increased. These complaints, when they are not at first brought on by debility of the stomach, but have existed previously to that disease, are greatly aggravated by it; and it is in many instances very difficult, perhaps impossible, to cure them, till a material change is produced in the state of the stomach. Similar remarks might with propriety be made, respecting the long continued and periodical headaches of dyspeptic persons.

VII. CATARRH. This complaint has had, in almost all cases to which I have been particularly attentive, a much more intimate connection with the state of the stomach, than is generally supposed; and is often extremely troublesome. It sometimes exists to such a degree, that no small difficulty is experienced in reading aloud, in singing, and even in conversing, and it excites in some instances a *hacking cough*, as it is colloquially and not unaptly termed, which is almost incessant. Catarrh is often greatly aggravated, in persons having debilitated stomachs, by living near the sea shore, and by breathing a mixture of sea and land air; yet that ought not to be considered as its chief cause. Though such persons usually experience great relief in this complaint, by a voyage to sea, or by residing at a distance of one hundred miles or more from the shore, where the air is neither so variable nor so stimulating to the lungs; and though, on approaching the shore, the complaint returns with increased strength; yet, when their digestion is vigorous, they perhaps as often experience little or no inconvenience from such a residence.

In the year 1800 I began to be afflicted with this complaint, to a very uncomfortable degree. About the same time my stomach had become the seat of distressing debility. The catarrh lasted without material abatement, three years and a half. I then went to reside at Catskill. In a little time after, it almost wholly left me. I attributed the relief to the free use of snuff. After some months had elapsed, I returned to New-Haven on a visit, and during four days which I spent here, experienced more of the complaint, than I had done during the preceding

two months. After some time I ceased from taking snuff: the catarrh did not return, but in several instances on my visiting the shore I had short and severe paroxysms of it, which ceased immediately on my going back. Since my return finally to this place in the year 1805, to the present time, I have suffered but little from this source except in moist, cloudy weather, and during a paroxysm of acidity in the stomach, when the catarrh is nearly as severe as ever. If at such a time, I ride in an easy chaise, directly along the sea shore, for two or three hours, with the wind blowing from the ocean on to the land, it induces such a degree of horrseness, that I cannot speak a loud word. Brisk exercise, or a better atmosphere, will soon give relief. When in good health, I experience these evils, under similar circumstances, only in a small degree.

VIII. COUGH, LOSS OF VOICE, &c. There is a cough attending this disease, aside from catarrh, and very properly termed by people in general, *stomach cough*; often rendered considerably troublesome by the prevalence of acidity, with no expectation, or a very small and difficult one. The same cause also, sometimes occasions a partial or total loss of voice. Hundreds of times I have known the voice, so far weakened by a paroxysm of acidity in the stomach, as to render it inconvenient and painful, for one or more days at a time, to read loud half an hour. And I have met with one or two cases, where persons were unable to speak out of a whisper, for a long period of time, which I attributed to sympathy with a debilitated stomach, and which I could account for, in no other manner.

IX. CONSUMPTION. This disease, when occasioned by the cause now alledged, is chiefly confined to delicate young ladies, between fourteen and twenty-one years of age. There is usually in such cases, an hereditary debility. To this, great accessions are made, by the most delicate and ridiculous nursing in childhood; by the avoidance of exercise afterwards; by a diet of slops; by confinement at home; by fashionable dress, cramping and compressing some parts of the body, and leaving others naked; and a universal round of ab-

surd management. Such a course of life will assuredly induce universal debility, a sickly appetite, and extreme weakness of the stomach and intestines. Consequent upon this, comes on daily vomiting after every meal; a series of morbid sympathies take place between the stomach and uterus; and unless vigorous measures are now taken, a quick consumption will, in many instances, speedily ensue. The colourless, half formed, inanimate being will, like a tender plant reared in a hot-house, at the sting of the first insect, wither and die.

X. PAIN IN THE LUMBAR REGION. Of this I have known but one instance. The pain was in the left lumbar region, attended with heat, not constant, but always present and troublesome when the stomach was considerably acid, and the heat always produced by the same cause. This pain was not absolutely confined to the same place, but was sometimes in the anterior, sometimes in the posterior, sometimes in the superior, and at other times in the inferior, but generally about the central parts of the lumbar region. It was sometimes attended with soreness or tenderness of the integuments. It is now about two years since it began. It increased for a time, and is now gradually diminishing, without any other apparent cause, than that the digestion of the patient is improving. A distinguished literary gentleman who was present when this was read to the Academy, has since informed me, that he was some years ago afflicted with severe Chronic Debility of the Stomach, for about two years, when his health began to improve, and continued mending till he entirely recovered; that during the prevalence of this disease, he had a complaint in the left lumbar region, almost exactly similar to the foregoing, and that he now recollected that it came on and went off, with the disease in his stomach, though it had never before occurred to him, that it was owing to that cause.

XI. AN IRREGULAR PULSE, &c. I have never known a good pulse, in a person severely afflicted with the disease under consideration. It is usually more frequent, feebler, and smaller, than in health. It is often irregular both as to force and time, sometimes beating three or

four strokes with regularity, then a feebler and imperfect stroke; and sometimes after several regular pulsations, two or three hurried ones; sometimes intermitting once in six, eight, or ten pulsations; but with no regularity in any of these respects. I have often observed all these irregularities to be considerably increased, in one person, whenever acidity abounded in his stomach.

XII. *LIABILITY TO BE AFFECTED BY CHANGES IN THE WEATHER.* A person uniformly enjoying high health, can hardly form an idea of what is intended, under this head. He might almost as well conceive of the objects of a sixth sense. A gentleman who had been troubled with severe debility of the stomach, about a year and a half, went in the month of October, to reside in a large city, during the remainder of the autumn, and the ensuing winter. In consequence of various causes, his health rapidly improved. In the latter part of November, during several days of warm, foggy, relaxing weather, being engaged in close study, he became dull and spiritless, and his stomach was full of acidity. Finding himself too much indisposed to pursue his usual employments, he walked out one evening, very slowly, with his eyes fixed upon the ground, and his mind totally inattentive to the surrounding objects. After walking little more than a hundred rods, all his unpleasant feelings, which had been of three or four days continuance, were greatly mitigated, and soon totally ceased. On looking about for the cause, he found what he had not before observed, that the wind had changed to the north-west, and that the fog and clouds were dissipating, and the sky becoming clear.

The same person, during the latter part of December ensuing, was confined to his room, by ill health, about ten days. During five or six of the last days, the weather was extremely warm, damp, and relaxing, and the sky continually cloudy. This brought on a great degree of debility and languor. One evening at the close of this period, about nine o'clock, he felt surprizingly better, and instead of going to bed, as his ill feelings had prompted him to do, he sat up studying, till near midnight. He was utterly unable to account for his change of feelings,

till, on withdrawing the window curtain, and opening his window, he found the wind had shifted to the north-west, and the sky had become clear. There had been no other apparent cause in either case, to produce the effects specified.

I have often experienced similar changes in my own feelings, from the same cause. Whenever the weather is cloudy, warm, and damp, I experience some degree of general debility. This is sometimes inconsiderable, at other times severe. In the latter case, my joints become relaxed; tremor affects my hands; the whole muscular, and nervous systems lose their customary tone; and a great excess of acidity takes place in the stomach. This is sometimes accompanied with wind, and various morbid sympathies, and sometimes not; and the ill feelings are occasionally so severe, as to unfit me for reading, and for any sedentary employment. They all also usually increase, till the weather changes. A change of wind to the north-west, will in most instances, dissipate the evil in a few hours. The languor and debility, the acidity of the stomach, the headache, the tremor of the hands, the hot flushes, the yawnings, the general irritability of body, and irresolution of mind which it occasions, speedily disappear. The weather most likely to produce these evils is that, which is so warm as to occasion a continued sweat from very gentle exercise, and so damp as to prevent the sweat from evaporating. A south-east wind, more frequently than any other, produces this kind of weather. After it, east, south, and north-east winds. A north-east wind is usually, cool and chilly, and far less unpleasant than a south east. I uniformly feel better after it begins to rain, than before. This kind of weather is very apt to occasion teething, in dyspeptics. How can the rise and disappearance of acid in the stomach, from this cause, be accounted for, unless we admit that it is a secretion?

XIII. HABITUAL DISCOURAGEMENT. This is an almost universal consequence of Chronic Debility of the Stomach. I do not intend, that persons labouring under that disease, are at all times the subjects of such discouragement; but that almost all persons affected with it, are often, for considerable periods, in a greater or less degree,

thus discouraged. This most unpleasant state of mind is greatly increased, and perhaps wholly caused, by acidity in the stomach. I have often observed persons of this stamp, regularly elated and depressed, as the paroxysms of acidity arose and disappeared, and have known but a very small number of persons, subject to severe and long continued attacks of that disease, who were of a resolute, decisive character. It is very difficult also, if not impossible, for a person who is called to encounter so many sufferings, as dyspeptic persons often are, to be habitually cheerful. Gravity, and some degree of sorrowfulness, seem to be the natural consequences of the disease. The stomach is a viscus exquisitely sensible, and has a singularly intimate connexion with other parts of the body. Of course, when its functions are deranged, many peculiar morbid sympathies are to be expected. For these, most persons are utterly unable to account. The state of the feelings is so strange, and so different from that which is experienced in good health; the actual distress is often so severe; so much indisposition is frequently brought on by slight causes, or by causes unobserved, and unthought of, by the subject of them; the complaints also, are of such long continuance, and so little relief is afforded, by the remedies customarily made use of; the sufferings of the patient are so universally treated with ridicule, or so often declared by others to be imaginary, while he knows them to be serious realities; the loss of strength and flesh, and the apparently hopeless situation in which he finds himself, are circumstances sufficiently disagreeable and alarming, to break down for a time, at least, the resolution of most men. In some instances, persons of high health, and sanguine constitutions, such as are very impatient of the complaints of dyspeptics, become from some of the causes beforementioned, themselves the subjects of this disease; and then, all that hardihood of mind, that decisive, resolute character, on which they prided themselves so much, and which they were fond of attributing to superiority of understanding, vanishes at once. Such persons, it appears to me, more than any others, are apt in this case to be extremely de-

pressed in spirits, and difficult to cure. Such persons, more than any others, I believe, become finally deranged in mind, or the subjects of settled melancholy.

There are other persons, of a widely different character, who sometimes become dyspeptic, viz. such as are constitutionally phlegmatic, or made so by close and long continued attention to some one kind of business, and that of a nature which requires but little exercise of body, and furnishes little variety, relaxation, or amusement to the mind; who have never accustomed themselves to reading, or improving conversation, or to reflections on subjects which enliven the imagination, or improve the understanding. The minds and the bodies of such persons, are in a sense, usually in a state of stagnation.—When a person of this cast becomes the subject of severe Chronic Debility of the Stomach, the discouragement is so great, the torpor of the mind so entire, and the influence of the mind upon the body so commanding, that the chance of recovery is small. The patient dies as a candle goes out, because there is no more aliment to support the flame. The mind, it is hardly necessary to observe, has great influence in prolonging or shortening life. Such a person, cannot without much difficulty, be roused from his lethargy, he cannot be persuaded to make efforts for his own preservation, or if he makes any, he is utterly unwilling to persevere. He cannot find amusement in new employments, or if he can, he is wholly unfitted by his nature, or his habits, to make the experiment.

Firm fibres, and strong contractions of the muscles from the exercise of the will, seem to be almost indispensably necessary to great decision; yet I have known a very small number of men of very relaxed fibres, who possessed unusual energy of character. Health, and sometimes even life itself, in such persons, may be considered as a forced state, and as kept in being by the activity of the mind. Were such minds permitted to inhabit bodies of a different cast, bodies which, instead of continually retarding the mental energy, uniformly co-operated with it, a very commanding character would doubtless be the result. A person suffering from habitual debility

of the stomach, will, of course, have relaxed fibres throughout, and feel muscular contractions; and cannot possibly make the same advances in science, or acquire as great a mass of information, as one who does not labour under these evils, and yet possesses no more discrimination, or celerity of correct thought. The difference between the two men in these respects, after the lapse of twenty years, will be great, if both have made the most of their advantages.

XIV. REVERIE. This state of mind, all persons labouring under this disease will, to a greater or less degree, slide into. Few causes so much increase acidity in the stomach, with its attendant consequences, as systematic thought. For ten years past, during most of the hot weather, one hour's attentive reading would, almost at any time, induce such an excess of acidity in my own stomach, with such an uneasy, gnawing sensation in that viscus, from the action of the acid upon the fibres, together with severe headache, and pain in the eyes, as to compel me to desist. Many hundred times has the effort been repeated, and almost as often relinquished. An hour is usually, and half an hour very often, the utmost extent of time to which the experiment can be pushed, during a day. The first sensation is considerable heat in the stomach, then the gnawing sensation above described, then flushes of heat, succeeded by darting pains in the head, fixed pain in the fore part of the head, pains in the balls of the eyes, then tremor of the hands, and universal debility. This continues through the day, and sometimes through two days, in very hot weather, unless thrown off by brisk exercise. But in cold and dry weather, I find myself often able to read two or three hours in a day, without much inconvenience. That such sufferings should discourage study, or the renewal of the cause of them, and draw the mind insensibly, and almost irresistibly, into a state of reverie, is not to be wondered at. Some persons of this stamp spend a great part of their waking thoughts, when they are not engaged in some active business, in humming tunes, or repeating a few lines of poetry. Several hours in a day, are not un-

frequently passed in this manner. Though variety is so congenial to the feelings of man, yet here a dull uniformity, resembling a continued indistinct sound, is sought after, and the mind is satisfied, if it can escape the labour of systematic thought, to waste its hours on trifles. Severe suffering first leads to it, and in part continues it, and habit renders it agreeable.

There are other complaints, which, if they are not caused by Chronic Debility of the Stomach, or acidity of that viscus, are yet so intimately connected with the latter, in some instances, as to require the mitigation or removal of that, before any relief can be given to the principal disorder. Thus I have known one case of Chronic Rheumatism, and another of Gout in the feet, which did not yield to the ordinary treatment at all. They were both attended with excessive acidity of the stomach. This led to a suspicion, that they were so far connected with acidity, that they could not readily be relieved, but by removing that complaint. Vigorous and successful measures being taken for this purpose, the patients began almost immediately to mend.

After having mentioned the various evils, arising from the disease which has been the subject of the foregoing remarks, it will be proper to add, that one advantage usually results to those who are the subjects of it, viz. that they are less liable to attacks of inflammatory diseases.

We come in the last place to consider the TREATMENT.

The prospect of a radical cure depends on a variety of circumstances, such as the age and habit of the patient, the causes of the disease, the length of time which has elapsed since its commencement, and the habitual severity of the symptoms. A radical cure is, in many instances, rather to be hoped, than expected. On this account, the disease ought not to be styled, as it often is, the *Op-probrium Medicorum*. Many other diseases, originated by causes of no greater efficacy, are often equally obstinate. How many persons have brought on incurable weakness of the eyes, by an imprudent use of them, for a little time? How often has incurable madness been induced by severe study, or the indulgence of evil passions? Were a fifty-six pound weight appended to each

foot, of a person sitting on a stool, he might without serious inconvenience, raise them from the floor for a few moments, but were he obliged to keep them thus elevated, beyond a given time, the muscles which were forced into this unnatural and violent exertion, would become debilitated to such a degree, that they would never again recover their strength; so if the causes which debilitate the stomach operate a long time, or with great severity, the fibres will not in some instances, ever recover their tone.

Those cases of the disease least likely to be radically cured, are found in persons in whom it is brought on in early life, and to a severe degree, and who possess an originally delicate and feeble habit, who are always strongly inclined to general debility; or in other words, persons in whom there is an original deficiency of vital energy.

When Chronic Dibility of the Stomach occurs in early life, from the attack of some acute disease, or perhaps from almost any cause, where the constitution is originally good, other things being equal, there is a fairer prospect of a radical cure, than in middle life, or old age.

Those on whom it has been induced by the abundant use of opium, or spiritous liquors, are less likely to recover, than many others, because after these habits have been long persisted in, it is difficult to persuade to a relinquishment of them; and because the system having been long accustomed to an unnatural and powerful stimulus, suffers great debility, and a sudden and alarming loss of vital energy, by the omission of it.

When it has been brought on by the excessive use of tobacco, though in many instances it is severe, and often continues a considerable time, yet so far as I have observed, it may more readily be cured, than in any of the cases hitherto mentioned. A speedy and total relinquishment of this habit, even after it has been continued for several years, I have not known to be injurious, but in various instances highly useful.

Where it has been induced by a too sedentary life, or by certain mechanical employments, merely, and with-

out the co-operation of other causes, nothing more is usually requisite, except some immediate attention to the most troublesome symptoms, than a change to an active, healthy employment, provided early efforts are made of this nature.

Where it has been induced by severe study, if the patient is possessed of a constitution originally vigorous, and the study is for a time omitted, the cure is usually not very difficult. But the misfortune is, in this country at least, that of the young men originally destined to receive a liberal education, no small proportion are constitutionally feeble, and this is the very reason why they become students. It appears to be an opinion, prevalent to a great extent, among parents, that their feeble sons, if nothing else can be made of them, may be converted into scholars, and thus fitted to enter into one of the learned professions. No idea can be more erroneous. It requires far more strength of body to study effectually and thoroughly, than to labour on a farm, and not a small number of these very students, after dragging out several years of pain, disease, and discouragement, are compelled to enter upon some very different and more active business.

With respect to the length of time which has elapsed since the commencement of the disease, it can be hardly necessary to observe, that the longer it continues, the prospect of a cure usually becomes less.

With respect to the severity of the symptoms, it may be observed, that if the acidity and wind in the stomach are habitually severe, the prospect of a radical cure will be diminished, in some measure, in proportion. If the mind is greatly affected, and despondency, irresolution, and discouragement have taken possession of it, the prospect of recovery will be smaller, than with those persons, who are usually cheerful, and possessed of more mental energy.

In attempting a cure, we must, keeping the things which have been mentioned constantly in view,

1st. Avoid all the exciting causes.

It must be evident to every one, that so long as these causes continue to operate, the disease will continue to

grow worse; yet nothing is commonly more difficult, than to persuade patients of the importance of attending to this direction. Against some of the causes they will without much reluctance guard, but to others, they will expose themselves with no small obstinacy. Study is usually so irksome, that most cease to pursue it with eagerness. A sedentary life is not unfrequently avoided, and great active efforts entered upon, but not a small number become so far discouraged, as to sit still more, and exercise less. Those, who habitually use opium, and ardent spirits to excess, very rarely reform. Tobacco chewers relinquish the use of this nauseous plant, with less reluctance. The indulgence of evil passions, instead of being repressed, as it ought sedulously to be, is often greatly encouraged, and thus brings with it a double present punishment. I cannot but think this cause to be more operative, than is generally supposed.

II. We are to mitigate or remove such symptoms as are especially troublesome. In cases where a radical cure is not speedily or at all expected, much may often be done, by faithful and persevering efforts to palliate the most painful symptoms.

The first and most troublesome symptom, and the one always demanding our attention, as being the cause of many of the rest, is acidity in the stomach and intestines. In endeavouring to remove or mitigate this evil, the objects to be kept in view are, twofold, viz. To remove the various causes which aggravate or induce it; and to rid the stomach of the acid, when it abounds to such a degree as to be troublesome.

1. The causes which induce a paroxysm of acidity, or increase the tendency in the debilitated stomach to generate it, are of two kinds, viz. primary and sympathetic. The primary are those, which operate immediately upon the stomach; of these, it will be proper to treat first.

Under this head, every thing relative to diet will be included. It will be proper to begin with that species of diet, which is most likely to produce acidity, and to close with that which is least apt to have this effect; or which, in other words, is most suitable for dyspeptic persons.

Though acidity has, I flatter myself, been shewn to be, in many instances, a morbid secretion, yet without great attention to diet, this complaint will frequently be greatly aggravated. The alimentary matter will readily undergo a fermentation. For whenever the stomach is debilitated to such a degree, as to secrete an acid fluid, the process of digestion will be so slow and imperfect, as to admit of a fermentation of many sorts of food, usually friendly to persons in good health; and perhaps also, the secreting vessels may have their tendency to morbid action increased, by every thing offensive to the stomach. Where the acid is occasioned wholly by fermentation, no one will contend, that very careful attention to diet is unnecessary.

The kind of food in general use in our country, which is most apt to ferment in the stomach and intestines of dyspeptic persons, and to occasion great quantities of acidity and wind in those viscera, is the acid summer fruits. Several of these fruits most dyspeptic persons can at times, eat sparingly, without much inconvenience.—Many such persons can, however, eat them but rarely, and then only in small quantities. Some persons are unable to eat them for years, and afterwards experience little inconvenience from a moderate use of them. The food which is at one period of life healthful, and much coveted, is, in some instances, neither agreeable, nor useful, to the same person at different periods, though his health may be good at both periods. This is much oftener true when the health is impaired.

All the acid summer fruits are apt to ferment in the debilitated stomach, and to generate much wind and acidity. Of those which grow in this country, and are least apt to occasion these evils, the St. Michael's pear, perhaps, stands at the head. Next to this may be placed several other species of pears, having a very soluble pulp, and a sweet, delicious juice, with the names of which I am unacquainted. Next to these are a few kinds of peaches, including those only, which are very sweet, soluble and juicy. To these, succeed a few sorts of apples, bearing the same general character. The purple raspberry takes the next place. Other kinds of raspberries

succeed. Gooseberries, strawberries, currants, whortleberries, peaches of a middling or inferior quality, apples of the same character, cherries, plumbs, blackberries, and native grapes, being very apt to ferment in the debilitated stomach, should be used sparingly, if at all; and none of them, nor any of the other fruits can be safely indulged in, when the debility of the stomach is severe.— Every judicious person, however, can best determine for himself, on making a few trials, which are easiest of digestion, and whether his digestion is sufficiently vigorous, to render any of them safe. It ought to be added, that different persons do not, in all instances, find the same fruits easiest of digestion. It ought further to be observed, that in some instances, certain vegetable acids greatly relieve acidity. Thus I have known finely flavoured and pungent bottled cider, have this effect.

A distinguished medical gentleman has informed me, since writing the above, that, having somewhere seen a free use of ripe oranges strongly recommended for the relief of this complaint, he was induced in one case where all the usual remedies had failed, to give them a trial, and that his patient, a delicate lady, experienced great relief from this source. The fruit was not of the customary quality, picked green and ripened by decay, but uncommonly sweet and finely flavoured. Did the vegetable acid so stimulate the secreting vessels as to excite a more healthy action? It surely could not have produced this effect by retarding, or preventing the fermentation of the alimentary mass.

Many kinds of apples and pears are rendered much more digestible, by baking or roasting. Fruits preserved in sugar, are less easy of digestion, than in the natural state. Of preserved fruits, several kinds of pears which may be kept through the winter, in their natural state, and prepared for use as they are wanted, and what is peculiarly important, may be made highly palatable with a small quantity of sugar, are perhaps the safest.

Of the garden vegetables, consisting of pulse, sallads, pot herbs, and roots, which are generally cultivated in this country, asparagus is, so far as my knowledge ex-

tends, decidedly the best. This observation would doubtless be thought a very strange one, by many of the inhabitants of the city of New-York, and of other places. The reason is this. All or almost all the asparagus sold in the markets of that, and several other towns, is cut in such a manner as to ruin it. That part only, or chiefly, is cut, which is below the surface of the ground, and this is always tough and bitter. That part only, which is above the surface, is fit to be eaten. This, when the weather is not very cool, and the growth of the plant therefore very slow, is always tender, if the root is of sufficient age. It should be cut just at the surface, when the plant is six inches high. It is surprising that so healthy, palatable, and productive a vegetable, should be so little cultivated, throughout our country, especially when we consider, that it comes at a time when few other vegetables can be had.

Summer beets and turnips, and summer and winter squashes, are usually easy of digestion. Of the last vegetable, the varieties being very numerous, and the qualities very different, pains should be taken to procure the best. Very good potatoes are usually sufficiently digestible, while those of a contrary character, often turn sour. The magic onion having the least of the peculiar odour, of that class of vegetables, and being very tender, often gives no trouble, when it is eaten without butter, or any other dressing, except salt and pepper. It is far superior to any other species of onion, with which I am acquainted; and has not been cultivated, I believe, till very lately, in any part of New-England, east of New-Haven, or at least to a very small extent only. Tender bean pods, or what are usually termed stringed beans, are remarkably easy of digestion, and rarely give trouble to dyspeptics, except in severe cases. Shelled beans and peas are much less safe, and usually are made far more difficult of digestion than is necessary, by being eaten when old and tough, and with much melted butter. Maize boiled, or roasted, when it is young, tender, and succulent, is usually not only highly palatable, but safe and pleasant to the stomach; but when old and tough, it becomes highly, if not absolutely indigestible.

Throughout the country, it is to a very great extent, eaten when old and tough, and hence has arisen the common opinion, that it induces at times, diarrheas and dysenteries. By planting it at ten or twelve different periods, it may be had throughout the season, from the latter part of July, till the middle of October, and always tender, nourishing, and safe, for most persons. There is usually but one planting, as the use of it in this manner, is but a secondary object with people in general, and as but a small number of persons in this country pay that attention to gardening, which a regard to health, economy, innocent gratifications and pleasures so loudly demand. There is a vast difference between having at all times, an abundant supply of fine vegetables, and being confined to a few, and those poor, tough, and unpalatable. At boarding houses in our large towns, I rarely see any vegetables except potatoes, which are tolerable, and these are often water soaked. I have hence ceased to wonder, that so many healthy persons are prejudiced against the free use of vegetables, and content themselves to live on animal food, to so great a degree. From one planting of maize, a fortnight is perhaps, the utmost limit, to which the use of it may be extended, in a common season, even where you have the advantage of taking it from a large field, and where of course, it will not be all equally advanced. If eaten after this time, the gastric liquor makes no impression on it, and it passes the intestines absolutely unaltered. Tender parsnips are usually sufficiently digestible to be eaten with safety. Carrots are less so.*

Spinage, beet tops, and other greens, though often highly useful to persons in health, occasion too much flatulence, to be ventured on, by persons having weak stomachs. Boiled cabbage ought to be absolutely avoided, no vegetable within my knowledge, being so troublesome, in this respect. Lettuce, raw cabbage, celery, cucumbers, radishes, and melons, are all unsafe, and almost always prove troublesome to debilitated stomachs.

To all this it is proper to add, that persons labouring under the disease in question, cannot in many instances,

* See Note E.

with safety eat scarcely any of the foregoing vegetables, at certain times, and that some persons cannot for considerable periods; but this is only when the disease is particularly severe.

Nuts of every kind, and mushrooms, should be wholly avoided.

Of farinaceous food, good wheat bread is decidedly the best, for all persons having debilitated stomachs.—The flour should be of the best quality, and the bread well fermented, and thoroughly baked; and then it furnishes an article of diet, usually as safe, as it is palatable. But if all foreign substances are not separated from the wheat before it is ground, or if the bread is not well fermented, or if it is imperfectly baked, or too much fermented, it will occasion acidity, or considerably aggravate it. If the bread is in a slight degree sour, whether from too long a fermentation, or from being made of sour flour, it will occasion distressing acidity. I have repeatedly known well fermented, and thoroughly baked bread, which was made out of sour flour, occasion excessive acidity, and severe costiveness, in a person previously enjoying very tolerable health, or in other words, having a pretty regular digestion, and open bowels; though possessing a stomach always inclined to the production of acidity. In such cases the acid will not of course, subside on the cause being removed, but will in some instances, continue in the stomach, a considerable period; a little leaven leavening daily the whole alimentary mass, till relief is afforded, by an emetic, cathartic, or spontaneous diarrhœa. Hot bread will almost uniformly occasion, and aggravate the same complaints, in the persons under consideration, and sometimes cause habitual headaches, where it is used daily. A gentleman of my acquaintance, who was dyspeptic, and troubled with very frequent sick headache, found entire relief from the latter complaint, by the disuse of hot bread, to which he had before daily accustomed himself. Persons having weak stomachs, ought never to eat bread, till it has been baked at least twenty-four hours. New bread is more glutinous and insoluble. The bread customarily made in this country, is by no means sufficiently baked. With

all these precautions, and these are usually indispensable, they will sometimes find acidity increased by wheat bread. In that case, what are termed crackers, or hard biscuits, will usually give no trouble. Where these cannot be obtained, bread made in the common way, rolled thin, and twisted like certain kinds of cake, and baked dry, will furnish a good substitute. Bread prepared altogether in the common way, throughout the whole process, and, when two or three days old, broken up, or cut into slices, and then dried thoroughly, in an oven moderately hot, furnishes another substitute, and when pounded may be eaten in chocolate, or milk and water, or any other way which is agreeable, with great advantage.

The next kind of farinaceous food which is least likely to ferment in the stomach, is boiled rice. I have not known costiveness, or injury to the eyes, as has been alleged by some, to be occasioned by it. It is highly nourishing, and easy upon the stomach, and far less apt to induce acidity, than wheat bread which is not of a very good quality. Rye bread being always disposed to ferment, and become sour, cannot be eaten with safety, by such persons as have debilitated stomachs. It often occasions when used at a single time, a severe paroxysm of acidity, and obstinate costiveness. For this assertion I may not perhaps, be believed. The celebrated Cullen has hurled an anathema against this opinion, by saying that he "will not believe on the authority of Hippocrates himself, that any of the *Cerealia* bind the belly." His belief, or his prejudices, make no alteration with respect to the fact. I can state, and state truly, that for ten years past, I have in no instance, within my recollection, eaten a meal of rye bread, without being made so costive as to need a cathartic after it, yet in various places where I have stopped, during journeys, I have at times been necessitated to eat it, or to go without food; so that I have made an abundant trial.

Every preparation of ripe maize, which I have met with, produces similar effects. The truth is, whatever occasions acidity in my own stomach, unless it also occasions brisk diarrhea, which is rarely the case, produces costiveness. Accordingly, as I have found from con-

siderable experience, Lisbon wine, or any of the lighter wines, uniformly cause or increase costiveness in myself, while a few glasses of very good old Madeira usually relieve that troublesome complaint. The former becomes acid; the latter usually relieves acidity. It ought perhaps to be added, that rye bread, and the various preparations of maize, are commonly laxative, to persons whose digestion is unimpaired.

The only preparations of buckwheat, with which I am acquainted, are pancakes, which are fried in fat, and boiled puddings. No food can be much worse than the former, for debilitated stomachs; as it so quickly ferments, and turns sour, occasioning flatulence, costiveness, headache, &c. None of the other *Cerealia* are used as food in this country, within my knowledge.

Of other preparations of the several species of this class are, puddings, pies, and cakes. Of puddings, none but those which are very simple, should be ventured on.— Those only which I would recommend, are boiled rice, and boiled bread, previously dried and pounded. Flour puddings are too glutinous, and insoluble, and occasion, as do all the richer puddings also, in dyspeptics, the same disagreeable consequences. Every species of pie, and every kind of cake, except that which is very simple, are unsafe. It can scarcely be necessary to observe, that of the sauces customarily used with food of this sort, none except those of the simplest kind, are proper.

Of the effects of milk as an article of diet, I shall only remark, that so far as my observation has extended, it has uniformly proved mischievous to dyspeptic persons. It is too fluid, becomes highly acid, and occasions costiveness, headache, &c. Old pungent cheese often promotes digestion, while that of a contrary character, usually has a pernicious effect.

Eggs boiled to the consistence of thick cream, are usually safe and considerably nourishing, and very easy upon the stomach.

Fish are more nourishing, and more easy of digestion, than vegetables, and less so than flesh. Some kinds are much less digestible, than others. Broiled or boiled fish, are far preferable to those which are fried. Dried salted

codfish, of a good quality, are usually friendly to weak stomachs. The shell fish are all, perhaps, difficult of digestion. Of those in common use, if I might judge from my own experience, the lobster is the least, and the clam the most so; but the experience of others does not in this instance correspond with mine. Few kinds of food are more troublesome to some dyspeptic persons, than the round clam: others find little difficulty from it. Lobsters should never be eaten warm. In this situation they often give trouble, when they would give none if cold.

Of domestic birds, the dunghill fowl, when young, is easiest of digestion, and the turkey the hardest. The latter is altogether unfit for weak stomachs; and indeed every kind of poultry should be sparingly used, by persons labouring under that evil.

Of animal food, and of all the food generally used in this country, good beef is usually easiest of digestion.—The reason why flesh is easiest of digestion, is very obvious. It is well known to every one, that that part of the alimentary mass which yields nourishment, must first become fluid, before it can have this effect. The fluid parts of animal food are already assimilated to our own, or in other words animalized; vegetable food must undergo this process, before it can be received into the mass of our fluids. The best beef is that which is as much as seven years old, and thoroughly fattened. It should, when fresh, be roasted or broiled, in preference to being boiled. It ought always to be eaten rare, and never dried through. No gravy except the juices of the meat, or what is termed red gravy, is admissible. A very small quantity of fat is the utmost which is safe, fat in masses being always difficult of digestion, to debilitated stomachs. All these directions should be particularly attended to, when the disease is severe. Boiled beef moderately impregnated with salt, and beef smoke-dried for shaving, are as healthy as palatable.

After beef, mutton and veal are easiest of digestion. Fresh pork is altogether inadmissible. Salted pork, though not mentioned in this manner, within my knowledge, is usually when thoroughly impregnated with salt,

whether broiled, or boiled, very easy of digestion, and often remarkably grateful. That which is not of the best quality, which is imperfectly pickled, or packed, and rendered rusty, will be nearly as offensive to the stomach, as it is disgusting to the palate. The lean part of pork hams, when properly cured, is usually grateful and healthy, to those having debilitated stomachs.

Broths, though very nourishing food, are improper in dyspepsia. They soon pass off into the intestines. The debilitated stomach needs the constant stimulus of food, the stimulus in quality, and the stimulus of distension to a moderate degree; otherwise the acid acts with so much force upon its naked coats, as to produce constant uneasiness. Broths also occasion in such persons, costiveness.

Drinks it is proper next to consider. Most of those in which a vegetable acid abounds, are hurtful to a weak stomach. All inferior wines, low beer, common cider, and strong undiluted porter, occasion much acidity and flatulence. Pungent hop beer, made bitter with hops, and stimulating with ginger, and replete with carbonic acid gas, is a healthy drink for very hot weather, when the perspiration is abundant; but in cool weather, it is less safe. Very pungent bottled cider is often highly serviceable, and safe, when most kinds of wine are otherwise, but not invariably so. Very sound old Madeira wine, drunk in moderate quantities, is in many instances, highly useful. It should be always laid aside, however, when it is not needed, as by constant use it loses a part of its efficacy; and all that efficacy will be wanted, whenever the debility becomes severe. When none of the foregoing drinks can be used without occasioning unpleasant consequences, pure French brandy, properly diluted with water, may be advantageously resorted to. As every man habitually using ardent spirits of any kind, is in danger of contracting an unsafe attachment, it will always be prudent for every person, to restrict himself within narrow bounds, and on no ordinary account, to exceed two or three table spoonfuls a day. Very pure old spirits may be used as a substitute. All other distilled spirits are hurtful; and whenever the stomach will bear oth-

er drinks, let these be immediately laid aside. The customary drinks in the morning and evening are, in this country, tea, coffee, and chocolate. Of these, tea of a moderate strength, mixed with a considerable quantity of milk and sugar, is perhaps usually the least apt to give trouble. Souchong tea is far less hurtful than the green teas. Coffee I have found, after repeated and abundant trials, uniformly to become highly acid in my own stomach. Chocolate made out of the cocoa merely, or with the addition of aromatics and sugar only, furnishes a very healthy and palatable drink. Most of the chocolate manufactured in this country, is very impure, and when prepared for drinking, is covered with oil, and wholly unfit for a debilitated stomach. Bryan Edwards, in his History of the West-Indies, observes—"The cakes which are generally used under this name in England, appear to me to be composed of not more than one half genuine cocoa; the remainder I take to be *flour*, and *Castile soap*." Whether that generally used in this country, is prepared of the same materials, I know not; but it is a very suspicious circumstance, that the chocolate made here, is usually sold considerably cheaper, than the cocoa, out of which it is made. Some adulteration or improper mixture must be the cause of it. The Spanish chocolate, and that which may be prepared in private families, out of the cocoa, may be had free from these evils.

Condiments, common salt, pepper, mustard, and horse radish may be used in moderate quantities, with advantage. Pickles, ketchup, and other sauces, and all expressed vegetable and melted animal oils should be wholly laid aside. I know of no food so injurious to a debilitated stomach, as melted animal oils. It would have been easy to have treated this part of the subject, in a more scientific way; but I have purposely avoided, as far as seemed proper, all technical terms, wishing to make the subject intelligible to such persons, as have not turned their attention to medical studies.

To the foregoing observations, it will be proper to add several other general ones, relative to the same subject.

All persons suffering from Chronic Debility of the Stomach, should be particularly attentive to masticate

their food thoroughly. It has been ascertained by repeated and decisive experiments, that the gastric liquor much more speedily dissolves substances out of the stomach, when thoroughly comminuted. There is thus a much greater surface exposed to be acted upon. We may fairly and certainly infer the same, of the same fluid, when in the stomach. Much more nourishment is also derived from the same quantity of food when thoroughly masticated, than when not; and costiveness is much less likely to take place. He also, who masticates his food sufficiently, will seldom over-eat; while he, who swallows it without chewing, will, if his appetite is good, almost invariably eat more than his stomach can thoroughly digest. This will, if continued, infallibly weaken its coats, and induce costiveness.

With respect to the quantity of food, it may be observed, that the stomach should never be overloaded. To avoid this evil, he who has a debilitated stomach, should never suffer himself to fast, or go long without food, so as to become very hungry. To all such, late dinners are particularly injurious. The temptation to over-eat then, usually becomes so strong, that few persons will sufficiently command their appetites. The coats of the stomach become unduly distended, and thus the whole viscus becomes weakened; and the alimentary canal frequently filled with acidity and wind. Late and hearty dinners induce a feverish state, as is evident from the flushed face, the languor, the heaviness, and the quickened pulse, which take place immediately afterwards. Dinners should be furnished at an early hour. The food should be nourishing, and easy of digestion. Care should be daily taken, never to eat to satiety, but always to leave the table with a good appetite. Where dinner cannot be had at an early hour, I would recommend eating about twelve o'clock, or earlier, a crust of bread, or a cracker or two, with a little smoke-dried beef, or cold ham, or cold roasted beef, with a glass of Madeira wine. A very pernicious custom is extending itself, among fashionable people, in some parts of this country, viz. of dining at a very late hour, and eating three fourths of the whole food of the day, at dinner. It is reasonable

to conclude, aside from all experience on the subject, that as the fatigues of the day, among such people, are chiefly before dinner, considerable food, and that of a nourishing kind, should be taken at breakfast; instead of the breakfast usually taken, viz. several cups of very strong coffee, with a little toast, or bread and butter.—To all dyspeptics particularly, I would recommend a far different course. Instead of eating immoderately at dinner, and taking a profusion of spices, and sauces, and drinking large quantities of porter, brandy, and wine, and thus unfitting themselves for thought, or business, the remainder of the day, let them make a more equal distribution of their food, at their different meals. Let them eat meat at breakfast; let them dine early; and then they will be inclined to eat moderately at dinner. In this way the stomach will usually fail of being filled with acidity and flatulence, and of being overloaded. The customary employments may then be pursued after dinner, as well as before. It will doubtless be supposed, that this course is not precisely suited to those, who lie in bed half of the forenoon. Only one kind of fresh meat should generally be eaten at a time. Salt pork, or ham, with fresh meat, I have not found hurtful. It is a good rule, however, to eat of but few dishes at once. Variety from day to day, may be useful, but not on the same day. Hearty suppers are always improper for weak stomachs: a few mouthfuls of cold meat, and a crust of bread just before going to bed, will often be of service. It prevents the acid from corroding the coats of the stomach, lessens or removes that unpleasant wakefulness which sometimes takes place in consequence of it, and relieves the sickness and faintness, which is by some persons experienced, on first getting up in the morning.—Where this complaint is troublesome, food should be taken immediately after getting up, or a little before.

Hot food or drinks are hurtful to the teeth, and weaken the stomach. Drinking large quantities of watery drinks, is always prejudicial to weak stomachs, and of stimulating drinks, dangerous. The quantity of drinks should be small, and little or nothing drunk between meals, unless in very hot weather. A large quantity of watery drinks may, perhaps, among other ill effects, di-

lute the food to such a degree, in some instances, as to occasion it to pass off too soon into the intestines. The persons for whom I am particularly writing, are very apt to drink more than is necessary or useful.

2. The sympathetic causes, which aggravate or generate acidity in the alimentary canal, are, cold and wet feet, such a degree of cold applied to the surface of the body generally, as will produce chilliness, a warm and damp air, the exposure of the eyes to the reflection of snow in a bright day, variable weather, an obstructed perspiration of the head from wearing pomatum and powder, inhaling an impure air, or rather swallowing it when mixed with the saliva, perfumes, wearing tight boots, ligatures, too much study or engagement of the mind, the indulgence of strong passions, and in a minor degree almost any thing which disorders the surface of the body, or any of the viscera. All these are to be guarded against. Cold and wet feet have a powerful influence in producing acidity and flatulence, in the debilitated stomach, where the alimentary mass is of such a nature as to ferment rapidly. Care therefore should be taken, to keep them uniformly dry and warm. For this purpose, boots with a treble sole should be worn, and within the boot a cork sole, covered with flannel; or a sole of an ox's bladder between the inner and the middle one. With this security any one may walk six or eight miles in the rain, or in wet snow, without endangering his health. To remove this morbid sympathy between the stomach and feet, I would recommend washing the latter, every day, in cold water. This practice should be adopted gradually, first using tepid water, and proceeding by little and little, to that which is cooler. It should be begun in the summer, and may by most persons be safely continued thro' the winter. He who will give it a fair trial, will find himself far less likely to take cold from wet feet, than before. Those persons who are troubled with cold feet, during the night in the winter, will find relief from holding their feet to the fire, fifteen minutes before going to bed. Frictions will also be useful. The exposure of the eyes to strong light often occasions much more disorder in the stomach, than an inattentive observer would imagine. I have re-

peatedly known much acidity and wind produced in that viscus, by the strong reflection of light from the snow in a bright winter day. Hence in walking, or riding, under such circumstances, the eyes should be in some measure defended. As variable weather, and a damp atmosphere are prejudicial, it will be advisable to fix upon a place for a stated residence, where these evils prevail in the smallest degree. A dry, sandy soil, and an elevated situation at a distance from the sea shore, is usually to be preferred. Some dyspeptic persons, however, appear to be benefitted by residing near the shore.— This is especially the case with some females, who usually reside in the interior country; and who spend no small part of their lives in a rocking-chair, or about some employment which scarcely furnishes any amusement, or exercise. To such persons, I have repeatedly known a journey, and short residence by the shore, highly useful. But the benefit here, though usually attributed to the friendly influence of sea air, ought undoubtedly to be attributed chiefly, and perhaps solely, to the exercise of the journey, to the novelty, variety, and amusement derived from an unceasing change of country, and that often a very beautiful one, to the conversation and kind offices of near friends, to the cessation of the usual domestic cares and anxieties, to an increased appetite, to a more generous mode of living, and a universal change of objects. A due degree of energy and exertion at home, would, in many instances, throw off the complaint also. An obstructed perspiration of the head may be prevented, by avoiding hair powder and pomatum, and by combing it with a sharp ivory comb daily, and brushing it with a stiff brush.

The efficacy of impure air in producing disorder in the stomach, appears to me to be much greater, than is usually admitted. Most persons appear to believe, that the danger to be apprehended from impure air, arises from the effect which it has on the lungs, in consequence of being inhaled. This opinion I cannot but think to be erroneous. In the month of October, 1804, I was requested to visit a man, living about thirty miles distant, who had a little time before, the misfortune to break his

leg. Expecting from the information sent that an amputation would be necessary, I carried a set of instruments along with me. The day was cloudy, and very raw and chilly. I started a little before noon, and being straightened for time, imprudently did not stop to dine. I arrived about dusk. My stomach was empty and irritable, and I was desired soon after alighting to examine the wound. The fœtor proceeding from it was highly offensive. An extensive mortification of the fleshy parts around it had taken place, and the bone was to a considerable extent bare of the periosteum. While examining with my probe the more minute circumstances of the wound, it was necessary to hold my head very near. I was soon seized with severe sickness at the stomach.—Perceiving that I was becoming extremely faint, and should immediately drop upon the floor, unless relief was given, I made a desperate effort to reach the outer door, which I saw standing open. Finding no relief as I hastened towards the fresh air, but perceiving myself rapidly failing, I sprang through another door, two or three feet distant, and threw myself on to a bed, which lay near by, in an adjoining room. All sensation and voluntary motion ceased for a time, and when I revived I was unable to raise my head from the bed without relapsing into the same state. I continued in this situation about two hours, and though I have often fainted from a disordered stomach, and other causes, and suffered repeated fits of sickness, I have never in any instance, experienced from any disorder for so long a time, such a total prostration of the whole energy of the system. I did not recover from it that night, nor the next day, till late in the afternoon, when a consultation of medical gentlemen summoned at my request, by the attending physicians, unanimously advised to an amputation of the limb, which I proceeded to perform. The stimulus of the mind then overcame the disorder, and I never had more command over the muscular system, than on that occasion. The vitiated air of a crowded room I have often observed, to occasion and aggravate disorder in the stomach; or in other words, to generate and increase in it acidity and wind. Being an hour or two in a close room in warm weather, or in an

open room where the circulation of the air is languid or interrupted, and the air of the room rendered impure by the respiration of a multitude of persons, has a very pernicious effect on my own stomach. The effect is too great to be wholly accounted for, on any other principle, than that which I have suggested, viz. a saliva rendered impure by mixture with a vitiated air, and received in that state into the stomach. Something ought undoubtedly to be attributed to the effect of the air on the lungs, from a deficiency of oxygen, and through the lungs upon the stomach, and whole system; and on some occasions something is to be attributed to long continued attention of the mind, and to weariness of the legs or body, from an inconvenient posture. On what other principle can we in many instances account for the typhus fevers generated in hospitals, and on board ships, and in jails, except from the operation of an impure air, swallowed with the saliva? Hence all persons having weak stomachs, should shun all crowded assemblies. Evening meetings, where it is necessary in many instances to stand till great weariness is induced, or to sit without support to the back, or in a cramped posture, and to inhale and swallow an impure air, are very injurious, and will often induce disorder of the stomach, which will not subside under three or four days. Such persons when called to visit sick rooms, should never go in with an empty stomach: or if that is unavoidable, should be cautious not to swallow their saliva when present. When called to watch with the sick through the night, they should keep a full stomach, and drink two or three glasses of good Madeira wine, or pure brandy and water. The contiguous effluvia, or the impure air when swallowed, will be so far diluted by the mass of food in the stomach, that it will be in a great measure inefficacious.

Too much study or engagement of the mind not only occasions acidity in the stomach, a fact which I know from my own experience, but also, as it appears to me, increases the irritability of the nerves, and renders them more sensible to the operation of the acid. On this subject I shall only observe further, that study before breakfast, and in hot weather by candle light in the evening,

is extremely injurious. One hour spent in study at those periods, is more hurtful to a weak stomach, than three hours after breakfast. Strong passions often indulged, occasion in many instances, palpitations of the heart, headache, a loss of appetite, and universal debility. Every person prone to the indulgence of bad passions, should therefore watch with great care against their rise and exasperation. Aside from the stupifying influence which they exert upon the conscience, and the permanent injury done to the temper, a dyspeptic person cherishing bad passions, such as envy, jealousy and hatred, is the greatest of all fools, since he punishes only, or chiefly himself. A few minutes spent each day in meditating on the folly and wickedness of them, with daily resolutions to overcome, and the careful avoidance of all those causes which give rise to them, are proper remedies.

3. The remedies to lessen or remove acidity when it is formed, are, various preparations of the alkalies, lime, magnesia, chalk, and emetics.

Emetics are useful only when there is a mass of fermenting matter in the stomach, which needs to be evacuated. The mildest, as they debilitate the stomach the least, should be used for this purpose. Where the acid is formed habitually, unmixed with other acrimony, and unaccompanied with wind, or in other words where it is a secretion, emetics uniformly increase the evil they were intended to remove.

Lime water appears to possess no important advantages over the alkalies; and being astringent, is attended with some disadvantages with which they are not. Magnesia should be used only where a laxative effect is desired, because it disagrees with the stomach far more than the alkalies; and then instead of the small doses usually prescribed, two thirds or the whole of a tea cup full should be taken at once. A dose of this magnitude will occasion three or four evacuations, and remove in many instances the whole of the acid, and leave the stomach in a fit state for the reception of tonics. The best preparation of alkali I believe to be the soda water. This must be properly made in all respects; and to be of much efficacy in a severe case, must be taken in considerable quantities.

a substitute for this, the carbonat of potash, (pearlash) and the carbonat of soda, may be taken with advantage. A constant use of these, however, for a length of time will weaken the stomach. They may be taken in a watery solution, united with some agreeable stimulus, such as cinnamon water, essence of peppermint, essence of wintergreen, &c. or in the form of a pill. The former mode is preferable. After all these precautions, the acid will, in the stomach greatly debilitated, be formed or secreted anew, and other measures, to be mentioned hereafter, must be resorted to.

Flatulence, or wind in the alimentary canal, being occasioned by the fermentation of the food in the stomach, is to be lessened by avoiding all those kinds of diet which have been mentioned as apt to ferment. It may be removed, or greatly lessened, at any given time, by alkalis, and may be expelled in some instances by aromatics and other carminatives.

Rancidity in the stomach is to be relieved by one brisk emetic, and an alteration of diet.

Costiveness, by avoiding that species of food which is likely to ferment; and by many of those means which have been mentioned as lessening or removing acidity; and by various measures which will be mentioned when we come to speak of a radical cure. On this subject several further observations will be necessary. A respectable gentleman who has for several years suffered at times, from this complaint, which was connected with Chronic Debility of the Stomach, has lately informed me that he obtains entire relief from it, whenever he uses wheat bread made out of unbolted flour, that is, flour not separated from the bran; while rye bread and all the preparations of maize used as substitutes, occasion, or aggravate it. Having no experience on this subject, I shall make no comments upon it. To accomplish the same end, some persons resort to the frequent or constant use of cathartics, or injections. A gentleman long labouring under this complaint, and much reduced in flesh and strength in consequence of it, found entire relief from daily injections of warm water. This practice was continued many months, every day at first, and afterwards whenever a regular,

spontaneous evacuation did not render it unnecessary, till at length the large intestines from habit, or some other cause, moved without any adventitious assistance. All the circumstances of this case I am unable to relate, and have not known the experiment fully made in any other instance. The frequent use of cathartics for the relief of costiveness, though often resorted to, is, usually, so far as my observation has extended, extremely injurious to dyspeptic persons. They generally greatly increase the debility of the stomach, and thus aggravate the complaint they were intended to remedy. The least mischievous cathartic with which I am acquainted, is the butternut pill; and I have known one instance, in which the long continued use of this medicine, proved highly serviceable. A gentleman who had been long afflicted with great acidity of the stomach, with obstinate costiveness and frequent attacks of cholic, used it every night just before going to bed, for seven months, in sufficient quantity to operate gently once the next morning, and drank daily six or eight glasses of wine, during the same period. His health in this manner was greatly improved. Some persons are disposed to think very favorably of castor oil in this complaint, as being gentle in its operation and usually sure. No mild cathartic with which I am acquainted, is, in my opinion so prejudicial to persons whose stomachs are much debilitated. All oils are unfriendly to persons of this description. A gentleman much troubled with complaints of this cast, and at the time affected with influenza, took a moderate dose of this medicine. Though it was of the purest kind, it induced such severe sickness at the stomach that he was unable for four hours to raise his head from his pillow without fainting. This effect was not owing to idiosyncrasy, but to acidity and debility of the stomach. Another remedy which has been recommended for the relief of severe costiveness is, washing the abdomen daily with cold water. I once knew this experiment fairly made, for a considerable length of time, and though it had the desired effect, it produced some evils which determined me in no case to recommend it.

The diarrhea which arises from acid summer fruits, &c. may be relieved by one cathartic, living on beef tea a day or two, and by astringents. To relieve the flatulence which is extremely troublesome in this complaint, a free use of carbonat of potash, dissolved in the beef tea, will be found highly serviceable. Taken in this way, it will not be found particularly disagreeable to the taste, nor will it disturb the stomach. It not only destroys the immense quantity of acid which exists in the stomach, and thus prevents an increase of wind, but it also destroys the whole of that, and in a little time, which has already formed. This I know from abundant experience.

The vertigo, pain and weakness of the eyes, the formation of tartar upon the teeth, teeth ache, catarrh, headache, disordered pulse, liability to be affected by changes in the weather, the depression of mind, &c. are only to be relieved by removing the acid, and restoring tone to the stomach, except that the catarrh may sometimes be considerably lessened by snuff, by combing the head daily with a sharp comb, and washing the neck with cold water: and the teeth-ache, and pain and weakness of the eyes, by bathing the face night and morning in cold water. This simple remedy has a powerful effect. The whole face should be dipped in a large bason of water repeatedly, and the ears and temples thoroughly washed. Gargling the throat and teeth with cold water will, also, have a similar effect, in part. A gentleman who has accustomed himself to face bathing for thirty years, has experienced these advantages, in a high degree.

It will now be proper to add a few *general directions*, relative to the treatment of Chronic Debility of the Stomach, which did not so properly come under any of the foregoing heads.

Particular attention should be paid to the dress. The clothing in our variable climate should never be extremely thin, but rather warm than otherwise. Any degree of chilliness is always hurtful. The clothing should be suited to the weather. In all sudden changes from heat to cold, additional clothing will be prudent, unless there was sufficient before to keep the body temperately warm,

when sitting still. A flannel shirt should be worn throughout the year, next to the body. The dress should be made to sit throughout easily. Tight boots and shoes should be avoided. All ligatures to the neck, limbs, or body, as they impede the circulation of the blood, and cramp the muscles, are hurtful. Women far more frequently suffer from this cause than men, it being at times fashionable to lace and cramp the body to such a degree as to impede all the animal functions. I remember to have seen a lady, who suffered not a little from a debilitated stomach, and general weakness, who was affected for several days with palpitations of the heart, great faintness, and strange and in some respects alarming symptoms, alarming as the cause of them lay concealed, as the remedies used were wholly inefficacious, and the symptoms were daily growing worse. At length it was ascertained, that she had round the body a large bandage, very tightly drawn, which an officious friend had persuaded her to have applied to give support. This cause I had suspected on first seeing her, and made enquiries on the subject; but it was denied. On the bandage being removed, she became speedily well.

The daily use of the flesh brush, or card, is often beneficial. Indeed whatever excites irritation in the skin, will relieve the disease of the stomach. It is worthy of remark, though the fact is often met with, that a cutaneous eruption will, in many instances, give entire relief for the time, or during its continuance, to the stomach, and the digestion vigorous. Upon the same principle it is, that stimulating plaisters upon the epigastric region, are serviceable. Whenever the debility of the stomach is severe, a plaister of this kind will be found useful.—One six inches square will not be too large.

Persons afflicted with the disease under consideration, are extremely apt to sit and walk crooked. This, though it is often difficult to avoid, from the great debility of the body, should never be indulged as a matter of convenience, but sedulously guarded against. Such a posture habitually indulged, will certainly prolong and aggravate the complaint. Students and clerks should, when writing, stand upright at high desks, but not so long as to in-

duce weariness of the legs. To prevent this, they may occasionally sit down. Neither is it advisable to continue so long at study or posting accounts, as to occasion confusion of thought, or weariness of body. A brisk walk of a mile or two will be found useful in such cases.

Sitting up late in the evening, or sitting where there is much light in hot weather, is also, not a little injurious. Many persons suppose, that the ill effects of sitting up late, are owing merely to our habits. This is a mistaken opinion. The truth is, after the fatigues of the day which most industrious people in this country undergo, whether they rise early or late, the wearied body needs *speedy rest*, and one hour's resistance of sleep at this period, will often be severely felt in its effects the next day. Dyspeptic people are very apt to sleep under too many bed-clothes. So many as to occasion sweating, or uncomfortable warmth, will be injurious. Eight hours sleep is as much as is useful. The head should be kept cool and unencumbered with a night-cap. Watching with sick people through the night, or sitting up all night for any other purpose, is extremely injurious, and will in many instances produce a degree of acidity in the stomach, and general debility, which will not be overcome in a week. Having fires in our lodging rooms will expose us to take cold more readily. I hope that I shall not be censured, for dwelling so long, and with so much minuteness, on this subject, when it is remembered that not only the comfort of the diseased, but the vigour of their mental faculties, and their tempers and dispositions, are intimately connected with the state of the stomach.

III. We come now to the last thing proposed, viz. to remove that state of the stomach in which the disease consists; or in other words, to effectuate a radical cure.

This is to be done by remedies which have an immediate operation upon the stomach, and by those which operate sympathetically, by strengthening the whole system; or in other words, by exercise.

When the stomach labours under a paroxysm of debility, the mineral acids will in some instances be found highly efficacious, in restoring its tone. If taken in large quantities there is, however, danger to be apprehended

to the teeth. Various preparations of bitters, with or without an astringent quality, are often of great service. To remove that extreme debility of the stomach, which occurs after a severe turn of diarrhea, or an attack of fever, I have found no medicine more useful than a powder composed of columbo root and pure rust of iron.— The relief found under such circumstances from taking it a single day, is often great. It may be taken in moderate doses, two or three times a day. Iron filings are preferred by some persons. Peruvian bark is very useful also, where it does not occasion costiveness, at least in many instances. Other preparations of iron may be resorted to, where for any particular reasons they may be preferred. Native mineral waters, containing impregnations of iron, may be used with great advantage. Of those particularly valuable in this country, the springs at Stafford and Ballstown stand at the head, at least so far as my knowledge extends. A free use of them and for some period of time, will be advisable. Factitious mineral waters resembling these, will be tolerable substitutes.— After considerable attention to the subject, I do not hesitate to say, that some or other of the ferruginous preparations, united with columbo, gentian, quassia, or some other of the bitters, are the tonics best suited to the case under consideration. When costiveness is occasioned, it must be relieved by some of the means before recommended; or the medicine may be laid aside for a few days, with advantage in some instances. Good Madeira wine will greatly aid the operation of the foregoing medicines. No wine but that which is of a good quality will be found serviceable. Wine, and wine only, is recommended in holy writ, for dyspeptic complaints. "*A little wine for thy stomach's sake, and thine often infirmities,*" was the direction of the Apostle Paul to Timothy. The words "*thy stomach's sake, and thine often infirmities,*" prove the disease to have been Chronic Debility of that viscus, with a numerous train of morbid sympathies; and no prescription of Hippocrates could have been better, for wine of the best quality is made in that part of the world where Timothy was, and in those days they probably had not learned the art of adulterating it.

These things are not to be considered as the great means of effectuating a cure, but rather as aids in the curative process. The disease when obstinate is not to be cured by medicines merely; and they who rely upon them solely or chiefly, will be disappointed. Still, when discreetly used, they are of great service. Some cautions relative to the manner of administering medicines, may not be improper. By persons having debilitated stomachs they should never be taken mixed with sweet-meats, but in the simplest state which circumstances will admit; that they may exert their full influence upon the stomach, and that their operation may not be counteracted or impeded by the acid and flatulence which sweet-meats occasion.

Previous to the commencement of a course of tonic medicines it will be proper to prepare the stomach for their reception by the administration of a cathartic. When the use of any medicine which is to be taken for some length of time, is about to be commenced, it will always be proper to begin with moderate doses. Large doses when the stomach is extremely irritable, excite irregular action, stimulate too highly, and thus fail of producing the whole of that efficacy which might have been in other circumstances expected. The quantity may be increased gradually as the case requires. While benefits are looked for from medicines, all other aids, those which have been mentioned, and those which remain to be mentioned, should be made to unite their whole force in counteracting the disease.

The curative process should be begun in the early stages of the disease, and pursued vigorously, before the secreting vessels have acquired such an inveterate habit of wrong action as they often do, where these directions are neglected. All persons admit that, when an ulcer has long secreted an acrid matter, vigorous measures are necessary to restore the vessels to healthy action, so when the vessels of the stomach have long secreted morbid fluids, very vigorous measures are likewise necessary to give relief.

The last and the great thing, which the patient is to depend upon for relief, is exercise. Connected with this

some constant employment should be furnished, an employment requiring considerable exercise of body, without occasioning severe fatigue; which will moderately rouse and occupy the mind, without producing anxiety; which will excite hope, and furnish variety and amusement. The disordered mind has a real and important influence on the body and whatever promotes cheerfulness or inspires hope, benefits the health. Most dyspeptic persons being fond of secluding themselves from company, pains should be taken to draw them away from themselves, and to entice them into frequent conversation with cheerful and agreeable people. In connexion with this, other exercise must be taken of a pleasant nature, and as much as can be borne, without inducing severe fatigue.

In what way is exercise useful in such cases, it may be asked? I answer by strengthening the whole muscular system, and by improving all the secretions, but especially the gastric liquor and the bile; while it also diverts the mind from a dangerous attention to the disease of which it partakes, and frequently furnishes an agreeable novelty and variety. That exercise strengthens the muscles, may be easily evinced. Every one knows, that it increases greatly the circulation of the blood, and in this way an additional quantity of nutriment is added to the solids; it also sharpens the appetite, and renders the digestion more vigorous. Of course a larger quantity of nutriment is derived from a given quantity of food. The same truth is evident, from facts, obvious to every observer. Thus certain mechanical employments, which call into frequent or constant daily action, particular muscles, occasion in them considerable enlargement, and an increase of strength. The whole muscular system of a labouring man, other things being equal, is vastly stronger, than of a man confined to light and easy employments. That exercise improves the secretions, any one may be satisfied by attending to its effects upon himself. The secretion from the axillary glands it is well known, is greatly increased in quantity, and rendered far more odorous, by hard labor, or by any kind of exercise that moves the arm to an unusual degree, such as riding

on horseback, cutting wood, &c. The sweat and ear wax of laboring people, is altered in like manner, and likewise, the milk of the female. The bile also is greatly improved in its quality, and often increased in its quantity, by the same cause. May we not reasonably infer the same of the gastric liquor?

Whatever be thought of this reasoning, the fact that exercise greatly benefits the health, will not be disputed. In many instances this alone, or in conjunction with a greater or less number of the several things before recommended, has effected a complete cure. Exercise increases the appetite, prevents acidity and wind from forming in the alimentary canal, removes costiveness, and thus destroys vertigo, head ache, pain in the eyes, catarrh, cough and discouragement; and greatly lessens or wholly removes all the other morbid symptoms. One day's riding on horseback will almost invariably relieve me from costiveness for the time, however obstinate, and a long journey usually throws it off, for a considerable period. The worst case of stomach cough which I have ever known was wholly cured by riding on horseback a few days. I have also known repeated instances, of weakness and pain in the eyes, which regularly became better or worse as the patient increased or diminished his exercise. For man in his present state, that sentence denounced on him at the fall, that he should "earn his bread by the sweat of his brow," is one of the greatest temporal blessings ever conferred on him by his Maker. Exercise is the natural state of man. All healthy little children when suffered to pursue their own inclinations are, when awake, in almost constant motion. As soon as they are able they set their hands and their feet, and their bodies in exercise. Those parents who tie their children in a chair, or confine them habitually in any way, do them a great injury.

How long a time should exercise be persevered in, it may be asked? I answer as long as life remains. The life of a person afflicted with severe permanent debility of the stomach is, like the christian race, a state of continual warfare. In many instances all that may have been gained hitherto, will without unceasing persever-

ance be speedily lost. He who has been once highly dyspeptic for a considerable length of time, however good his health may be at present, is, in most instances much more exposed to a return of the disease if he omit exercise, and the other precautions, than he whose health has never been impaired. This direction will I fear prove a stumbling block to some. Any measures however disagreeable which demand attention, self denial, and even confinement for a few days, many dyspeptic persons are willing to comply with ; but to persevere in this course many months, and years, is an undertaking too arduous to be generally looked for. No small proportion of them are fickle, as to the measures they adopt for recovery. Some of them go from physician to physician, till perhaps they apply to all in their neighborhood; when they sit down with this melancholy conclusion, that no one understands their complaint, or that it is incurable. This arises in part from the ridicule and contempt so often manifested by physicians, about complaints of this nature, from a persuasion that they are in a great measure imaginary, and from the general conclusion that *nervous disorders* are incurable ; and in part from the patient's expectation that the cure will be as speedy, as that of any acute disease. Some years ago a young man, son of a respectable farmer, having been between one and two years the subject of great debility of the stomach, applied to me for advice. He appeared wild, was easily alarmed, almost ready to despair of recovery, and was in great danger of a confirmed delirium. During his indisposition he had already applied to six or eight physicians, all of whom had treated him much in the same way. They seemed to consider his complaints as imaginary or mental merely, told him he was nervous, and that the cure must be looked for from time, and the efforts of nature. They advised him to cease from work, to ride about home and amuse himself. The medicines in each case were very inefficacious, and designed to amuse, rather than to cure. Finding the measures of the first producing little or no beneficial effect, he went to the second, and then to the third, and through

several others, till his father brought him to me. At the outset he was gratified not a little, by my telling him, that the disease was not an imaginary but a real one; that it was not mental merely but that it had its seat in the alimentary canal. He was affected with several unusual and anomalous symptoms. I explained to him as far as I thought he would comprehend, what I supposed to be its nature; that it was far from being as he apprehended very peculiar, but on the contrary that it was very common. I also expressed strong expectations, that if he would pursue the course to be pointed out to him, for a sufficient length of time to give it a fair trial, he would entirely recover, and within a moderate period. Having gained his confidence, I gave the necessary directions relative to his diet, dress, &c. ordered him a cathartic to prepare his stomach for the reception of tonics and stimulants, and at the proper time commenced the use of chalybeates and bitters. With this he was directed to drink daily several glasses of pure wine. He was directed also to go into the fields daily, with his father and brothers, and work as much as he could without severe fatigue, to engage in light work, to ride on horseback whenever business could be found for him, and to keep constantly employed and by no means to saunter about as he had done for a long time. He had originally a good constitution, and in three months became robust.

What kind of exercise is best adapted to dyspeptic people?

Generally speaking, exercise in the open air, is preferable to any that can be taken within doors. Of the former kind, riding on horseback is, doubtless, superior to any other. This agitates the body universally, and the abdominal and thoracic viscera peculiarly. No other reaches the spot so certainly, and so efficaciously. To gain the utmost advantage of this, the patient should in every severe case, take long journeys, because the system requires a great change to be wrought in it, because he will then have no excuses for sitting still, and because unceasing variety and novelty are thus presented to him. In all cases it is desirable to journey with a cheerful and intelligent companion, and in some instances the direc-

tion and conversation of some discreet person is indispensable. Such persons as can find unceasing gratification in beholding a beautiful country, in surveying lofty mountains, and rich vallies, wild and rugged precipices, majestic forests, noble rivers, well cultivated farms, neat villages, thriving and prettily built towns, a never ceasing and perpetually varying verdure, and that universal cheerfulness and beauty, that air of contentment and good order, which New-England presents, and who when outward objects fail to attract their attention, can find serenity within, who having abundant resources in their own minds, can in solitude find company, and dwell with delight on the highest and noblest subjects of contemplation, may journey alone. But those, who, when alone, spend a large part of their time in poring over their disease, who are unaccustomed to extensive thought, and find little delight in the great and interesting objects of the natural world, and when called to exercise by themselves, consider it as a task which they are required to go through, are utterly unfit for such an undertaking. Neither the cold of winter, nor the heat of summer, furnish suitable weather for journeying. From the 10th of May till the 1st of July, and from the 10th of September till the 1st of November, are the best periods of the year.— On returning, the same, or some other exercise, must be resorted to daily. Ten miles riding every day when the weather will permit, is the least which will answer. Unfortunately it is not perfectly genteel to ride on horseback, especially to take journeys in that manner, but it is altogether so, to be cramped up in a close carriage, shut in from the least view of the country, and necessitated to inhale through the day an atmosphere, rendered highly impure and offensive by the respiration of ten or a dozen persons. Where daily riding in the manner recommended above cannot be pursued conveniently, digging and hoeing in a garden will prove good substitutes; or as the patient is able to bear, almost any sort of labour which is customary on a farm. Walking, as it agitates the stomach and intestines but little, and if pushed to a considerable extent occasions weariness of the limbs, is far less serviceable. It is however desirable for every one to ac-

custom himself to walk freely and every day, when other exercise does not prevent. Riding in a carriage is sufficient for delicate females, and little children.

A sea voyage has in some instances proved highly serviceable. There are however several objections to it. It is very apt to occasion obstinate costiveness, and furnishes no variety, or amusement. Should it be determined on, the patient should not go as a mere passenger, but should do all the labours of a common seaman, so far as his strength will permit. A gentleman of my acquaintance, who possessed originally a fine constitution, but in consequence of close study for a considerable period of time, and an almost total abstinence from exercise, became the subject of the disease under consideration, effectuated a perfect recovery, by rowing a boat daily about two hours. This practice he continued so long as he found it necessary, and occasionally took other exercise of various kinds.

In cool weather, cutting, sawing, and splitting wood, will be found very useful. Riding in a sleigh will usually be of no service, and by occasioning chilliness, and pain in the eyes, will often fill the stomach with acidity. That species of motion will also occasion in some persons, vertigo and nausea. For young men at colleges or in merchants' counting-rooms, playing at ball, foot-ball, quoits, nine-pins, and various other similar amusements, will be highly useful. But it has been long a desideratum to find out some exercise which could be conveniently taken within doors, when the weather is stormy and unpleasant. Several persons have recommended with this view the swinging of weights. This is to be done in the following manner: Take two 14 lb. or 7 lb. or smaller weights, one in each hand; let the arms hang down in the natural state. Elevate them suddenly as high above the head as can be done with convenience: as suddenly bring them aside the body to their former place: continue this motion till the arms become weary. This exercise may be repeated often during the day; and may be varied by bending the knees, whenever the weights are brought down, so as to bring the latter about half way distant between the knees and the feet. Not satis-

fied with this, I tried another kind, which I thought preferable. Take four flat irons, (sometimes called sad irons.) Tie them in pairs face to face with strong cords. A piece of stout brown paper should be put between, to prevent their slipping, and made to extend over the corners, to prevent their cutting the cord. Then take one pair in each hand, by either handle. Let the body be entirely erect, and the arms hang aside the body as before. Suddenly elevate the irons as high above the head as can be done conveniently, keeping the arms pretty firmly extended the whole time; immediately bring them down again, and carry them as far behind the body as ease of motion will admit. Repeat the process till weary. This not only exercises the arms and shoulders briskly, but also the chest and whole body, and it will be well to elevate the feet each time. It may be repeated often during the day. Care should be taken when it is first attempted, not to push it too far, as it will occasion lameness in the shoulders. It had this effect upon myself, and on a friend of mine, whom I persuaded to give it a trial.— But after ten or twelve days I was able to pursue it to a considerable extent without inconvenience. I now daily resort to it, as a part of my habitual exercise, and find great advantage resulting from it. It has an excellent effect on my chest, and will, I am persuaded, cure me of tremor of the hands, by the strength which it will communicate to the arms and body. The longer I continue to make trial of it, the higher is my opinion of its efficacy. Instead of four flat irons, two weighing about ten pounds each, would be preferable, or two wooden blocks made of heavy wood, and shaped like the head of a beetle, with suitable handles, might perhaps answer as good substitutes. I would also recommend the swinging of a 56 lb. weight, in the following manner: With both hands grasp firmly the handle, previously covered with cloth, or paper, place the feet from eighteen to twenty-four inches apart: swing it forwards and backwards. Some other species of house exercise seems to be necessary for females, especially for those who labour under Chronic Debility of the Stomach. Women in this part of the United States, though their daily employments are sometimes sufficient-

ly fatiguing, take but little exercise in the open air; hence they are very slow in recovering from that disease. No house exercise for females, is better than spinning on the large wheel. Playing at Battledore will be occasionally a good substitute. Being much over the fire in hot weather, should be carefully avoided.

With respect to the quantum of exercise I would observe generally, that persons who are much debilitated, or unaccustomed to an active life, should begin moderately, and increase as their strength increases. Several medical writers of considerable respectability, have asserted, that, *to continue exercise till free sweating is induced, is hurtful*. With this opinion I cannot agree. On the contrary, I have uniformly found, and in a great number of cases, that exercise was of much less service where this effect was not produced, that is, in warm weather: Should it be occasioned chiefly by extreme heat, though with the aid of gentle exercise, I acknowledge it may prove prejudicial; as it may also, if the patient is much debilitated, and it is continued so long as to produce great weariness; but where a tolerable degree of strength remains, and he has been accustomed to exercise, between one and two hours brisk hoeing in a garden before breakfast, so as to occasion the sweat to drop freely from the forehead, will, instead of debilitating, greatly increase the appetite, promote digestion, and speedily give a universal tone to the muscular system. If he will proceed as his strength will permit, to work through the summer more and more, and to accustom himself more and more to hardships, he will be not a little benefitted. It has repeatedly happened, that rich men, severely afflicted with Chronic Debility of the Stomach, and living in a state of indolence and torpidity, with an intention merely to enjoy the good things of this life, without sharing in any part of the curse denounced on man at the fall, have in consequence of being reduced by some misfortune to poverty, been compelled to labour for their daily subsistence, or to lead a very active life, and have thereby become healthy and energetic.

With respect to the time of the day which is most suitable, it need only be observed, that in hot weather, in a

pure country residence, where noxious exhalations do not prevail, that is, in such a country as New-England, early in the day before breakfast, is the best time; and after breakfast in the forenoon, whenever the heat is not oppressive; but it will be well for every one to accustom himself to exercise at any time of the day, except soon after dinner, as early and as fast as may be. It would be a good rule for all to adopt, to eat with so much moderation, that light exercise immediately after dinner, should not be burdensome. When riding on horseback in cold weather, the body and the feet should be so well guarded, as to prevent chilliness, otherwise the stomach will become disordered, and little benefit will be derived.

NOTES.

NOTE A.

S. W. was some years ago affected with severe cough, expectoration, night sweats and other complaints, to such a degree, that he was supposed by his friends to have a pulmonary consumption, and to be rapidly declining. One day being intently thinking on some subject which interested him, he involuntarily took a sharp comb, which lay upon the shelf, near which he was standing, and scratched his head with it briskly. He observed that a very great quantity of dandruff fell from his head, and he was led in consequence of it, to comb it thoroughly and frequently, and by this means all his hectic symptoms left him, and in a few weeks he perfectly recovered.

NOTE B.

In the month of February 1775, a young gentleman aged about 21 years, lay very sick of a fever, in his father's house—he had been sick about a week, and was unable to raise his head from the pillow without fainting. At this time, he overheard some one of the family mentioning that one of the mobs so frequent at that time, and which grew out of the disorderly spirit of the country, and were gathered from several of the neighboring towns, had threatened to pull down his father's house, and were already on their march for that purpose. His father had left the town, and his eldest brother was sick in the house, of another disease. On hearing this intelligence, and realizing the situation of the family, he he instantly sprang from his bed, dressed himself, barred the doors

and windows, and loaded several muskets, which were near at hand. He then called for two hired men who were in his father's employ, to stand by him and defend the house and family. During the whole period he manifested the utmost coolness and the most determined bravery, declaring that he would do no injury to any man who was quiet, but that he would shoot the first person that offered any violence to the family or house. No such violence was offered, for though the mob came, they directed their zeal to other objects. The disease however was broken and never returned. He continued from that time perfectly well, and pursued his usual business without the least difficulty or interruption.

NOTE C.

Since writing the above, I have read cursorily what Fourcroy has written on the Gastric Liquor. He states that several physiologists assert that they have found that fluid acid, and that this has been the case, when it has been discharged by natural vomiting or by vomiting from an emetic; and that it has also been true of the liquor found in the stomachs of animals opened for anatomical observation. He further states, that Citizen Goffa, (elsewhere written Gosse) observed his own gastric juice had a well marked acidity, when he had eaten crude vegetables.

The amount of all these declarations seems to be nothing more than this, that various persons have found an acid mixed with the gastric liquor: a fact which the first physician that ever knew there was such a liquor, and ever saw a person spontaneously vomit, could scarcely fail to admit.

NOTE D.

Of the first kind of diarrhea, the following case may serve as an example. A young gentlemen some years ago confined himself to study, for about three years, as much as ten or twelve hours a day, with almost no exercise. About the beginning of the third year,

in the month of May, as the weather grew warm he became considerably debilitated, his digestion was languid and his appetite poor. He was also uniformly costive. These unpleasant symptoms increased through the summer and autumn. In the month of February, in the ensuing year, he became much more unwell, in consequence of sitting two or three hours one evening with wet feet, in a cold room. This brought on a very severe cough, and a light fever and a great increase of debility. He continued to grow worse for six or eight weeks, and his complaints were so obstinate and so little relieved by the medicines made use of, that his friends became apprehensive about the consequences. In April he began very slowly to mend, but was unable to leave his room till about the beginning of May. He then every pleasant day, accustomed himself to walk as far as he could without inducing much fatigue. He gained strength very slowly. His diet was not sufficiently nourishing, nor were any tonic or stimulant medicines made use of. The physician who had attended him had given no directions relative to these subjects, and neither himself nor his friends were sufficiently aware of the importance of adopting vigorous measures for his relief.—When he had acquired strength enough to walk out, he began to be afflicted with almost continued nausea. This evil attended him from the time he awoke in the morning, till he got asleep in the evening, except during a quarter or half an hour after each meal. The sensation at the stomach, he described as very exactly resembling that, in kind and degree, which results from taking an emetic about five minutes before it occasions vomiting. For this complaint, his physicians prescribed emetics, but they proved of no service; the stomach being so extremely torpid, that vomiting was not in any instance excited. They appeared to have no other effect, except to debilitate, and to increase the evil which they were intended to remedy. From the first of May, till about the middle of September, he had very few or no natural stools. During this time he was obstinately costive, except for short periods. At these periods he was in a state of severe diarrhea. For the costiveness cathartics, of what kind I know not, were administered every other day and nothing passed his bowels, except in consequence of them, only during the turns of diarrhea. These were brought on in every instance by eating acid fruits or pies, came at nearly regular intervals, continued about four days, and occasioned each from forty to seventy stools. The stomach was continually filled with acid.

He was afflicted with a severe gnawing sensation, distension of the intestines and cholic pains, acid eructations, vertigo, headache, frequent teeth ache, incessant catarrh, tremor of the hands, occasional syncope, palpitation of the heart, yawning, sighing, a pulse always irregular, both as to time and force, and frequent intermitting copious and debilitating sweats. The sweat upon his forehead, during the whole summer, induced by brisk exercise, had a strong acid smell, his spirits and energy of body were greatly affected by changes in the weather, he was subject to great drowsiness, his sleep was laborious, and he dreamed every night, during all the time in which he slept, but he was never able to give any connected account of his dreams when he awoke. His countenance was remarkably leucophlegmatic, and his spirits much depressed. During the summer he studied every day as much as he was able, usually about five hours; and walked and labored as soon as his strength would permit, three or four hours a day. In September and October he journeyed on horseback, about five hundred miles. This greatly improved his health, for a time. His digestion became good, and his spirits cheerful. All his unpleasant symptoms disappeared. For about two months he studied as much as he had formerly done.— During this period he resided from home, and was in a great measure deprived of exercise, and cheerful company. His food also was, to a great extent, such as was very improper, and tended to aggravate his complaints. In a little time, most of his dyspeptic symptoms returned. The diarrhea was about as frequent, and about as severe at the onset of each attack as before, and continued to return for about ten months. Being called to attend to this case, and finding that the usual remedies had given very imperfect relief, and that the stomach and intestines were so exceedingly irritable that a single tea spoonful of preserved fruits, or a small piece of a pye, a cake, or a small quantity of acid summer fruits, would induce diarrhea at times, and much wind and acid always, thus converting the contents of the stomach and intestines into a mass of acrimony, and that acrimony irritating the languid secreting and absorbing vessels with which it came in contact, I became satisfied that the principal immediate relief for the diarrhea must be looked for, from the use of such food as would be nourishing, and unapt to ferment in the stomach; such as would dilute the acrimony, and by its mildness, quantity and fluidity, defend the inner coat of the intestines, from the irritation heretofore experienced. The diet made

use of was beef tea, and it answered the purpose remarkably well. Every paroxysm became shortened in consequence of it, as much as two or three days, and instead of the numerous evacuations above-mentioned, they were lessened in number two thirds or more, and these were less copious and irritating than before. The patient was confined absolutely to this diet, while the diarrhea lasted, except that he was allowed to drink a little pure brandy and water. Rest or the avoidance of exercise was also highly necessary, and strictly enjoined; if at any time this course was dispensed with, the attack was as severe and as long as before. From a change of diet, and an increase of exercise, and other causes, the patient became toward the close of the year, more healthy, and now, during a turn of diarrhea, the beef tea is of no service.

NOTE E.

A gentleman, whose digestive powers were exceedingly impaired, and whose stomach was filled with a most corrosive acid, so that whenever he vomited, which he did often, his throat became excoriated to such a degree, that luke-warm milk and water occasioned considerable pain in swallowing, took large doses of Hull's cholic powder, a cathartic composed of aloes and aromatics. This produced copious evacuations from the intestines. Among the fecal mass, were observed, a large number of pieces of carrot, which were washed and found unaltered; yet he had not eaten any carrots within three months from that time. I do not suppose this to have been occasioned, by the peculiarly indigestible nature of the carrot, but chiefly by the excessive torpidity of the digestive powers. This fact, however extraordinary it may seem, may entirely be relied on.

In consequence of the Author's residence being now at a distance, several errors have occurred.

ERRATA.

- Page 221, line 32, for *up*, read *upon*.
223, - 30, dele *a* before *Chronic*.
228, - 13, for *phenomenon*, read *phenomena*.
• 233, - 22, for *han*, read *had*.
236, - 1, for *prima via*, read *primæ viæ*.
239, - 9, after *acid eructations*, insert *acrid eructations*.
245, - 22, for *frequent*, read *frequently*.
251, - 33, for *alterations*, read *alternations*.
252, - 5, after *at times*, insert *secreted*.
263, - 2, from bottom—after *to do*, insert *before*.
267, - 2, for *feel*, read *feeble*.
281, - 27, before *Condiments*, insert *Of*.
287, - 31, for *contiguous*, read *contagious*.
289, - 1, for *a substitute*, read *As substitutes*.
292, - 29, after *and*, insert *render*.
299, - 33, for *choracic*, read *thoracic*.
306, - 18, for *Goffa*, read *Goffe*.
308, - 5, for *frequent*, read *frequently*.
idem - idem, after *intermitting*, add a comma.

* This phraseology, though false Latin, custom has authorised.